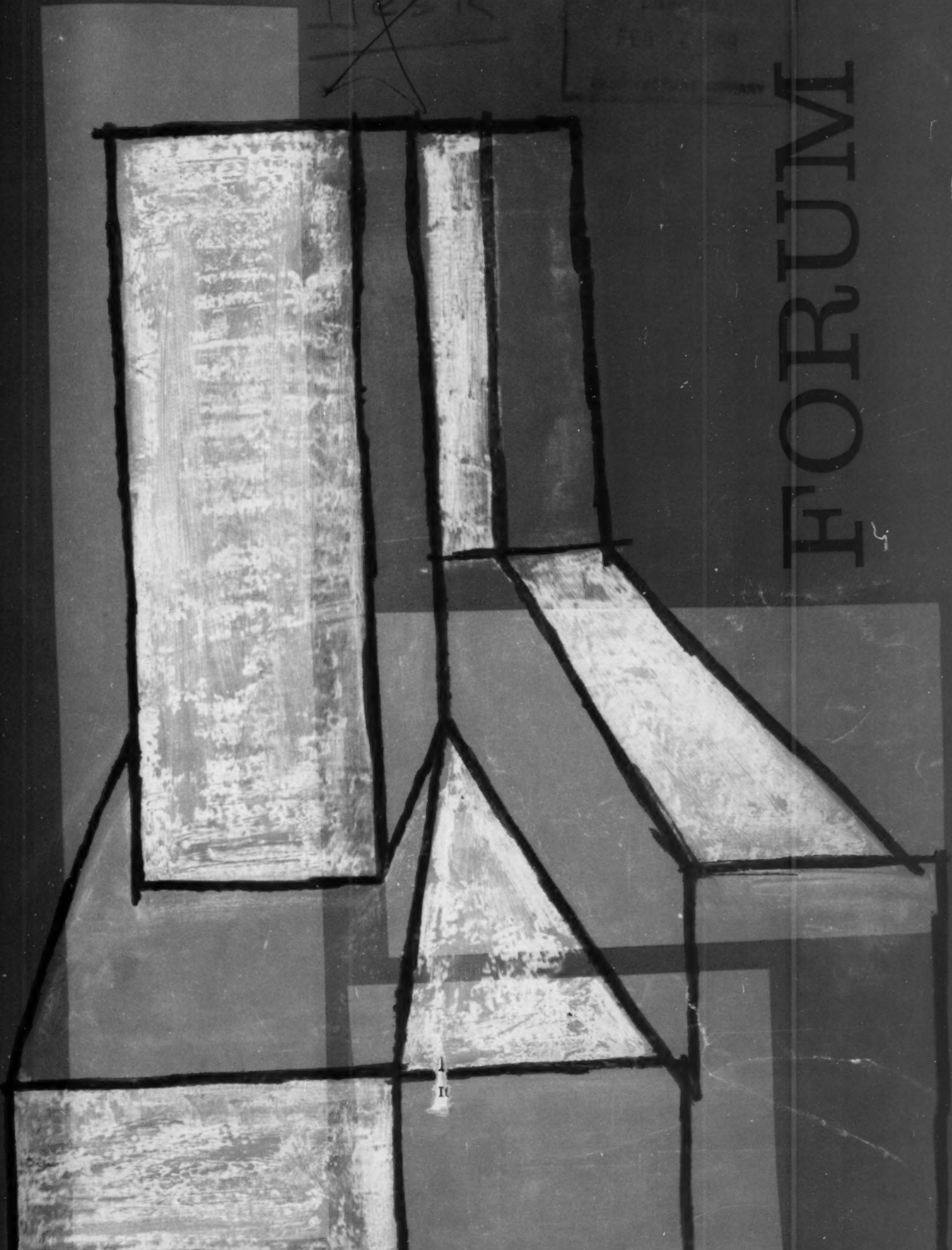
Architectural Forum / the magazine of building / February 1958

~~Desk~~

FEB 2 '58

# FORUM



THE SPLENDOR OF GOLD

**Plumbing Fixtures by**

**RICHMOND**

This 34-story golden tower—the first gold anodized aluminum skyscraper in the world—lends a new sparkle to mid-Manhattan. Designed for luxury and engineered for efficiency, every detail, every component was carefully deliberated, carefully selected...as were plumbing fixtures by Richmond. The styling, quality and durable beauty of these fixtures—plus their lasting service with minimum maintenance—are in perfect harmony with this ultramodern architectural concept. Richmond has a place in your future projects, whether commercial, industrial, institutional or residential. Write for complete catalog or consult Sweet's Catalog File.

**575 LEXINGTON AVENUE**
**NEW YORK CITY**

ARCHITECTS — Sylvan Bien and Robert L. Bien
OWNERS AND BUILDERS — Sam Minskoff and Sons, Inc.
MECHANICAL ENGINEERS — Sears and Kopf
PLUMBING WHOLESALER — Glauber, Inc.
PLUMBING CONTRACTOR — Fein-Schlosberg, Inc.

**RICHMOND**
**PLUMBING FIXTURES**
Division of Rheem Manufacturing Company
16 Pearl Street, Metuchen, N. J.

*The Fastest Growing Name in Plumbing Fixtu*

Architectural Forum / the magazine of building / February 1958

EDITORIAL

Good looks abroad—why not here? 67

CURRENT ARCHITECTURE

A handsome U.S. outpost in Japan 70
The new American embassy at Kobe by Architect Minoru Yamasaki.

New aerial gateway to America 79
A report on New York's Idlewild, greatest airport in the world.

Easygoing school in Texas 92
The Tyler school board transformed a hilly site nobody wanted.

The approach to Williamsburg 112
A modern information center helps visitors adjust to the Colonial atmosphere of Virginia's restored capitol.

THE BUSINESS OF BUILDING

The bullish outlook for building 104
During the next ten years new construction will equal the present value of all structures now standing. A FORUM forecast.

CITY BUILDING

A key to open cities 94
A new concept of zoning rewards builders for space left open.

The city: economic problem No. 1 76
Six experts find the city our greatest challenge for the future.

GALLERY

To build a turnpike 98
The Connecticut Thruway's massive impact on both city and suburb.

THE ART OF ARCHITECTURE

Modern tower in old Milan 108
It resembles Medieval battlement—but for peaceful reasons.

TECHNOLOGY

Building below zero 116
The Thule air base provides a rugged test of building techniques.

A wall without sealants 122
Its stainless-steel facing sheets are sprung into place.

7 News
37 Projects
43 Trends
57 Letters
61 People
129 Products
140 Books
147 Excerpts
179 Abroad
186 Footnote

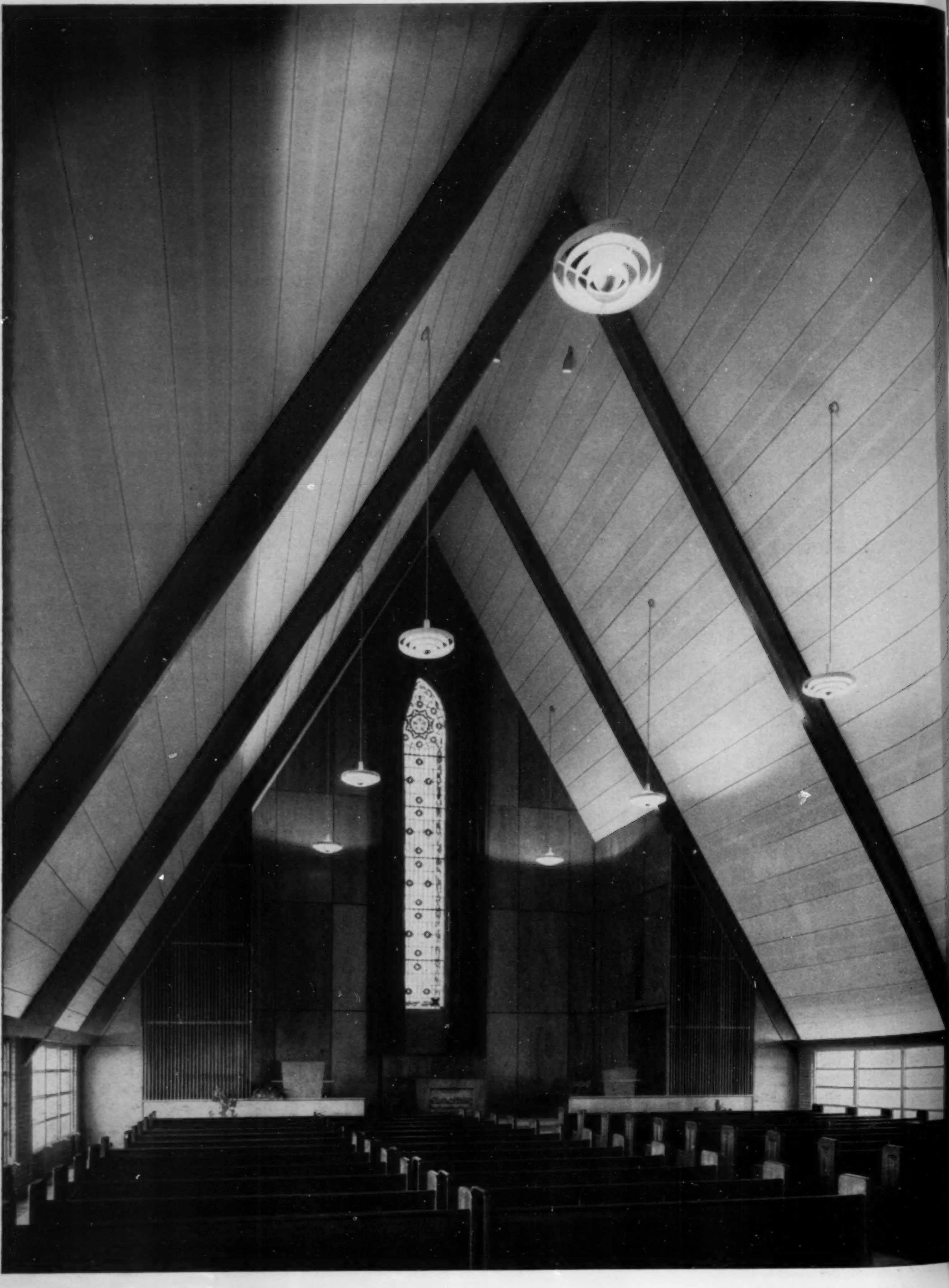
Cover: Design by Ray Komai based on the theory of bulk zoning (story page 94)

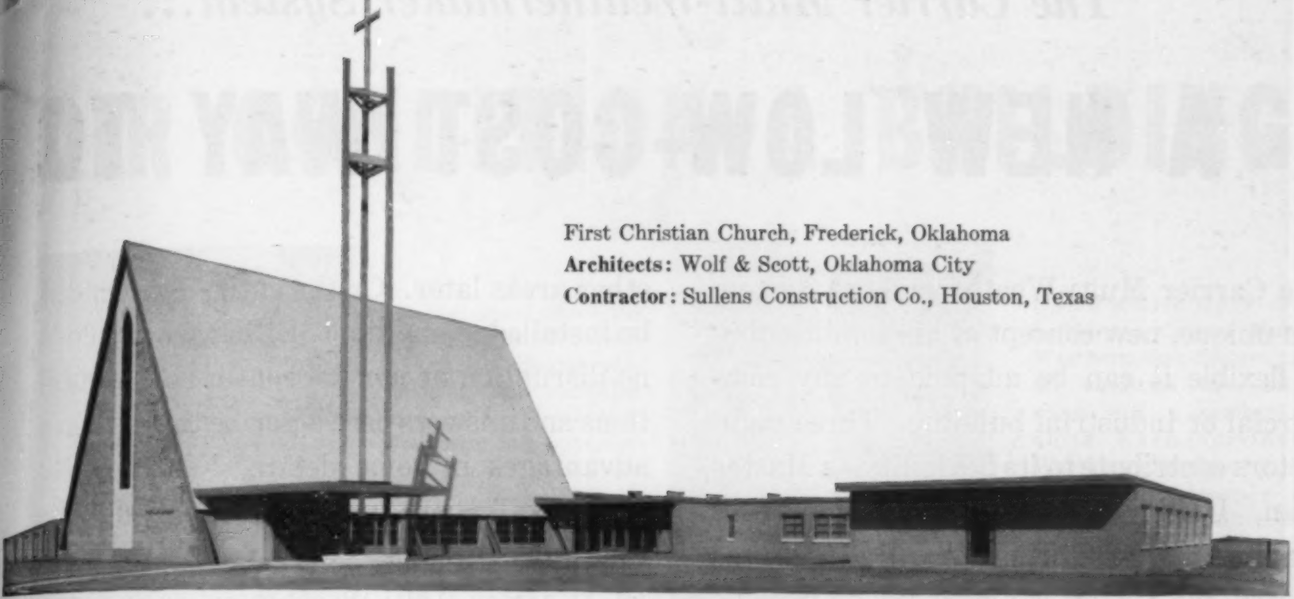
48 Editorial, subscription, and advertising data

184 Advertising index

VOLUME 108, NUMBER 2

Published monthly by TIME INC.,
9 Rockefeller Plaza,
New York 20, N.Y.
Entered as second-class matter
at New York, N.Y.
Subscription price $6.50 a year
© 1958 TIME INC. All rights reserved





First Christian Church, Frederick, Oklahoma
**Architects:** Wolf & Scott, Oklahoma City
**Contractor:** Sullens Construction Co., Houston, Texas

# CEILING DOES DOUBLE-DUTY TO STRETCH BUILDING DOLLARS

## it's a structural roof . . . it's an acoustical ceiling!

Need aesthetic beauty and muted devotional atmosphere be sacrificed to a dollar sign? Must structural and enduring qualities be compromised for economical construction?

Not when you use Fenestra* Acoustical "D" Building Panels to combine structural roof and finished interior ceiling in *one* compact, easy-to-handle package. They replace *five* different materials . . . are erected in *one* operation, by *one* trade.

Under normal roof loads, these lightweight, high-strength, 24" wide steel panels span up to 31'. *Inside the panels,* just above the perforations, is a pre-formed, arched, sound-absorbing batt† which effects noise reduction coefficients up to 80%. The ceiling can be washed or painted without affecting acoustical qualities.

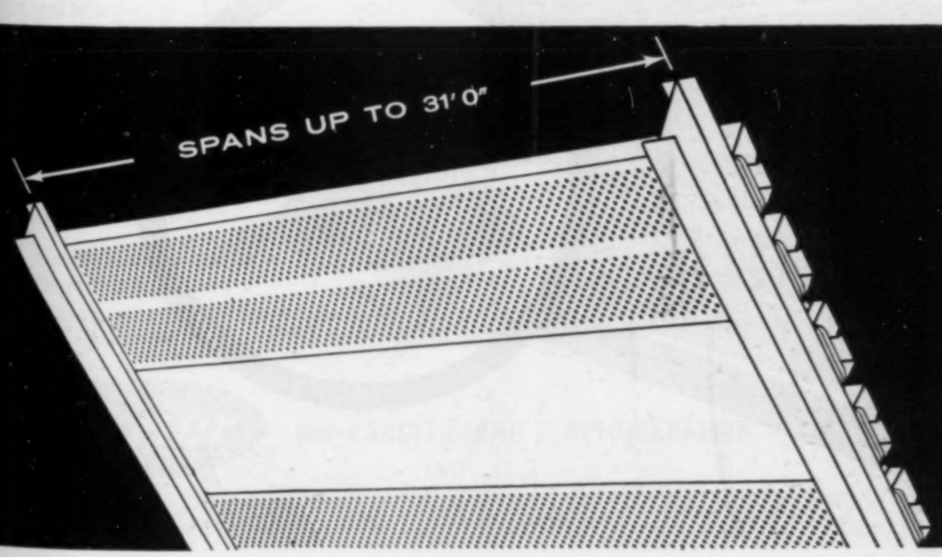
Get complete details. Write for FREE Fenestra Building Panel Catalog, or call your Fenestra representative. Fenestra Inc., Department AF-2, 2296 East Grand Blvd., Detroit 11, Michigan.

*Trademark
†Patent Pending

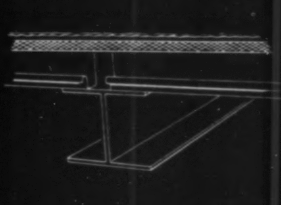
**Fenestra**
INCORPORATED

YOUR SINGLE SOURCE OF SUPPLY FOR
BUILDING PANELS • CURTAIN WALLS
DOORS • WINDOWS

SEE OUR CATALOG IN SWEET'S
2F
FE



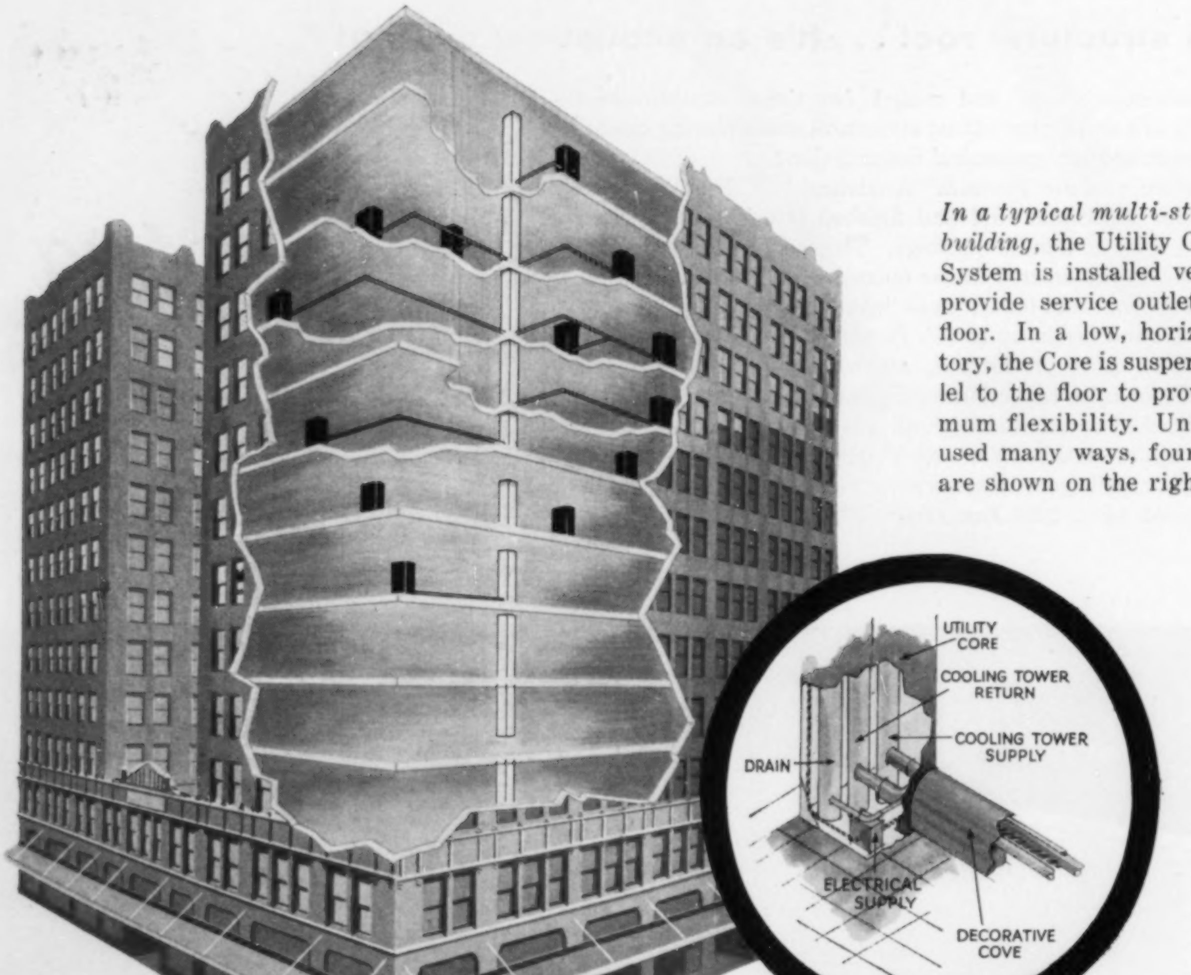
Fenestra Building Panels form finished acoustical ceiling and structural roof. Width - 24", Depths - 1½", 3", 4½", 6" and 7½". Lengths - up to 31'.



*The Carrier Multi-Weathermaker System...*

A NEW LOW-COST WAY TO

The Carrier Multi-Weathermaker* System is a unique, new concept of air conditioning so flexible it can be adapted to any commercial or industrial building. Three main factors contribute to its flexibility—a Master Plan, Utility Core and self-contained Weathermaker units. Where funds are limited, the System can be installed in critical areas first, then expanded to include other areas later. Or the entire System can be installed at one time. Either way, there's no disruption of normal routine. The questions and answers here describe the System's advantages in some detail. For complete details, call your Carrier dealer, listed in the Classified Directory. Or write for the booklet, "Carrier Multi-Weathermaker System." Carrier Corporation, Syracuse, New York.



*In a typical multi-story office building,* the Utility Core of the System is installed vertically to provide service outlets to each floor. In a low, horizontal factory, the Core is suspended parallel to the floor to provide maximum flexibility. Units can be used many ways, four of which are shown on the right.

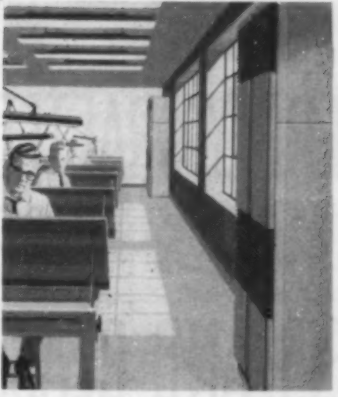
# AIR CONDITION A BUILDING!

*For individual offices,* the Carrier Multi-Weathermaker System can economically air condition each office. Individual Weathermaker units, connected to inexpensive ducts, do the job. Units can be recessed in a wall or storage area.

*For a whole floor* of a building, a Carrier Multi-Weathermaker System can air condition the entire space with a number of units. Each individual Weathermaker has all the components necessary to cool, dehumidify, filter and circulate the air.

*For an open production area* of a plant, a high-capacity Carrier Commercial Weathermaker using special ductwork can spot-cool an assembly line. In the System, you can air condition other plant areas with smaller air or water cooled Weathermakers.

*For an engineering-drafting room,* quiet Carrier Weathermakers can discharge draft-free air without any ductwork. The Multi-Weathermaker System permits air conditioning in one area while the System is shut off elsewhere.



**Q. What makes this System new and unique?**

**A.** The Master Plan, which co-ordinates installation of individual Weathermaker units in one integrated System – not a hodgepodge of unrelated "packaged installations."

**Q. How is the Master Plan applied to an average office building?**

**A.** First, a survey determines the cooling capacity required to air condition the building. Then, zone by zone, the Plan pinpoints the location of individual Weathermaker units required to handle the load. In addition, to simplify the installation of utilities from cooling tower to Weathermakers, the Plan provides a unique central Utility Core that houses the cooling tower supply and return piping, drain piping and electrical service. These utilities are sized to service all of the Weathermakers that will ultimately become part of the Multi-Weathermaker System.

**Q. How many Utility Cores are required in a building?**

**A.** In an average building, usually one. In larger buildings, several are required.

**Q. How does the System's flexibility apply to installation and financing?**

**A.** If financing is available, the System can be installed all at once. Otherwise, it can be installed in predetermined sections step-by-step – an area, a floor or several offices at a time. In this way, financing can be conveniently spread over a period of years.

**Q. Does "low-cost" apply both to installation and operation?**

**A.** Yes. Here's why: Weathermaker units are relatively low in cost and inexpensive to install. They operate only when needed, so operating costs are strictly controlled. They're as easy to turn on and off as an electric light, so the expense of hiring an operating engineer is usually eliminated. Because of Carrier quality, service expense is minimum. And the System offers substantial tax advantages.

**Q. How quickly can a System be installed?**

**A.** That depends on the building. And whether you want to install it all at once or step by step. In general, it's fast. All work can be done during regular hours without interrupting routine. And once the Utility Core is installed, individual units may be moved about and connected wherever they are needed to meet a temporarily increased heat load.

**Q. What does a Weathermaker unit look like?**

**A.** We've shown four here in commercial and industrial installations. More are shown in the 24-page booklet on the System. We'll be glad to send you this on request. We think you'll find it interesting and helpful.

**Carrier** AIR CONDITIONING · REFRIGERATION · INDUSTRIAL HEATING

**Reg. U. S. Pat. Off.*

**THE VAST MAJORITY OF THE NATION'S FINE BUILDINGS ARE SLOAN EQUIPPED**

**SKIDMORE, OWINGS & MERRILL**
*architects—engineers*

**TURNER CONSTRUCTION COMPANY**
*general contractor*

**ECONOMY PLUMBING & HEATING CO.**
*plumbing contractor*

**WARREN BARR SUPPLY COMPANY**
*plumbing wholesaler*

**RICHMOND PLUMBING FIXTURES, DIVISION OF RHEEM MFG. CO.**
*fixture manufacturer*

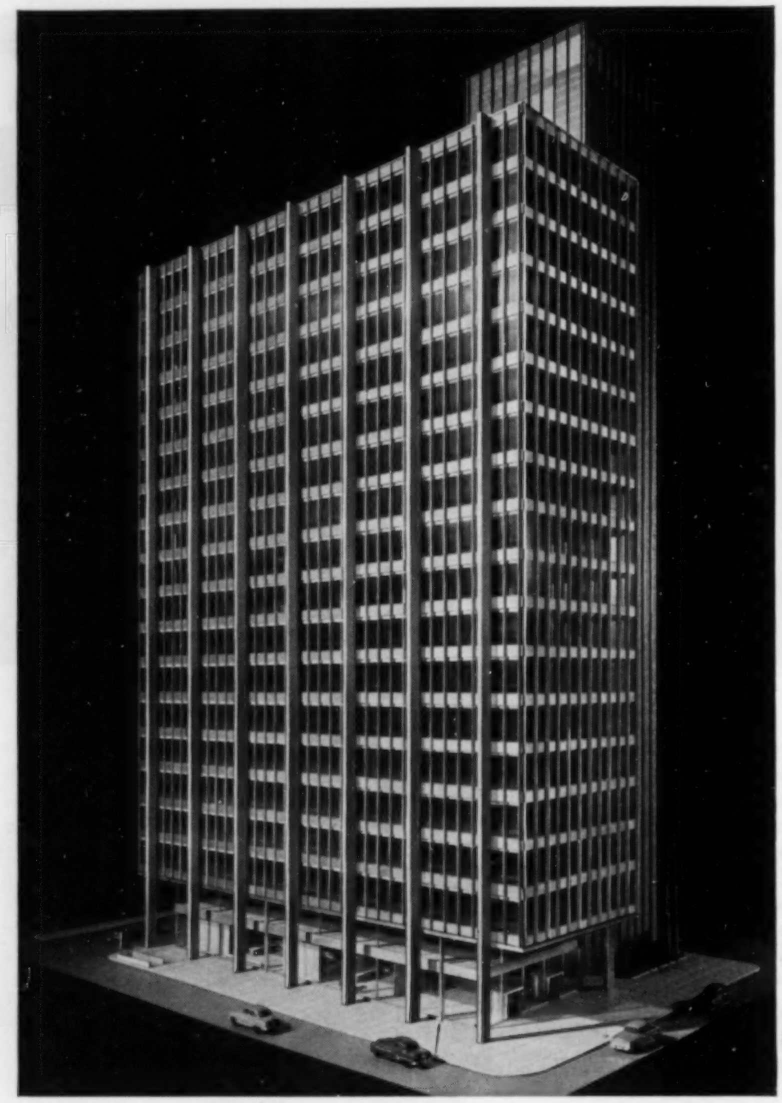


Photo • HEDRICH-BLESSING

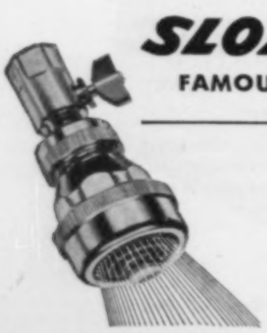
# SUPERBLY CRAFTED OF STEEL AND GLASS

• The new 19-story INLAND STEEL BUILDING in CHICAGO is a gleaming structure of stainless steel and green-tinted glass above a recessed ground floor—no stores or shops. It is a praiseworthy achievement in planning that provides occupants with many most-wanted features. The entire main block is supported on seven pairs of exterior columns. Each floor is a wide open area, unobstructed by pillars, and may be divided by movable steel partitions which are anchored into metal channels in ceiling grids. An adjoining 25-story windowless steel tower houses elevators, fire stairs, washrooms and other utilities. The cellular steel flooring, topped by lightweight concrete, carries air conditioning to perimeter floor grilles and electrical service and telephone wiring to all sections of the office floor. As are thousands of other expertly planned buildings, this new pace setter is completely equipped with SLOAN *Flush* VALVES.

## SLOAN *Flush* VALVES

**FAMOUS FOR EFFICIENCY, DURABILITY, ECONOMY**

**SLOAN VALVE COMPANY • CHICAGO • ILLINOIS**



Another achievement in efficiency, endurance and economy is the SLOAN *Act-O-Matic* SHOWER HEAD, which is automatically self-cleaning each time it is used! No clogging. No dripping. Architects specify, and Wholesalers and Master Plumbers recommend the *Act-O-Matic*—the better shower head for better bathing.

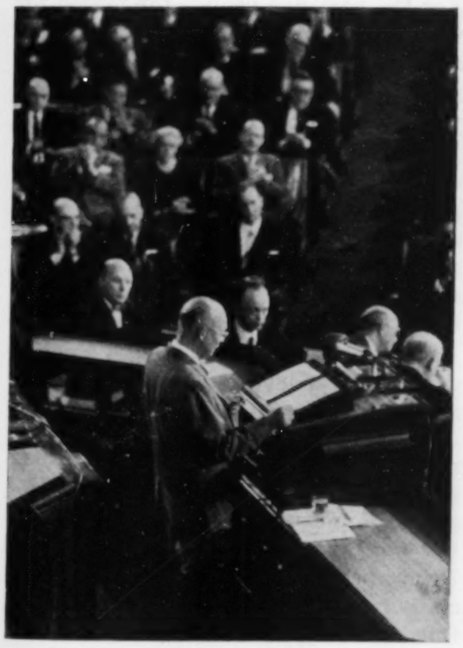
***Write for completely descriptive folder***

FLUSH VALVE LEADERSHIP FOR 50 YEARS
SLOAN VALVE COMPANY

**Ad No. 124—7 x 10 in.—B&W**
**Trade Papers, February, 1958**
**Agency: Reincke, Meyer & Finn**

# President proposes five-year urban renewal plan, with federal share of cost gradually shrinking

HANK WALKER—LIFE



President Eisenhower's budget for fiscal 1959 painted a contrasting picture of the federal government gradually backing away from some housing and building functions, while moving deeper into others. Over-all, however, most experts say that the President's proposals add up to a net decrease in federal responsibility in the area of housing and community facilities construction, even though the budget calls for an increase in federal construction spending (page 43).

Perhaps the most controversial housing proposal in the budget message was the Administration's plan to put urban renewal on a five-year basis, with gradually declining federal participation. The President's message said, "Now that this important program is well underway throughout the nation and the gains to participating communities have become well recognized, I believe the time has come when states and local communities should assume a share of the administrative responsibilities and financial costs more nearly commensurate with the benefits which their citizens receive." To do this he recommends a five-point program:

▶ Local communities should share costs of advance planning on renewal projects. This had already been proposed by a joint state-federal conference on transferring certain federal functions to the states.

▶ Each state should have "a special agency for urban redevelopment, housing and metropolitan planning to assume, as soon as possible, the financial responsibility for local planning of urban renewal projects. Adoption of this recommendation will be a constructive first step toward increasing the role of the states in this program and should ultimately permit the federal government to withdraw from supervision and review of planning."

▶ Capital grants for urban renewal should be put on a five-year basis—through fiscal 1964—but the federal share of net project costs would gradually decline over that period. For fiscal 1959, the President recommended new spending authorizations of $200 million—citing the fact that $50 million in unused spending authority, funds that the Budget Bureau held up after Congress appropriated $350 million last year, is still available—and he asked for $250 million a year each year thereafter until fiscal 1961. From 1962 to 1964, he asked for $200 million each fiscal year. But instead of continuing on the current basis, with the federal government paying two-thirds of net project costs, and the cities paying one-third, the federal share would be cut to 60 per cent by fiscal 1960, then to 55 per cent in 1961, and to 50 per cent for tne years 1962 to 1964. (Thus *total* federal-state outlays for renewal would theoretically increase from a maximum of $375 million now to $400 million in 1962.)

▶ The Urban Renewal Administration should be authorized to help local public agencies finance nonresidential urban renewal projects "by guaranteeing obligations issued to finance such projects." Present rules allow URA to use 10 per cent of its funds to aid nonresidential renewal areas. So far, the proposal to guarantee local obligations hasn't been completely worked out, but Washington observers guess it would work similarly to the public housing program, in which the federal government backs the bonds of local housing authorities.

The budget proposals on renewal have already drawn some fire, and there are indications that they may be in for a rough time in Congress. Peculiarly enough, much of the opposition to the President's renewal program will probably come from advocates of the program who have long wanted it put on a long-term basis but who do not feel that the federal share of renewal's cost should be cut; particularly not in such a way that another layer of government (the State) is imposed on an already cumbersome governmental procedure. One of the first to criticize the budget proposals was New Jersey's Liberal Republican Senator, Clifford P. Case, who said, "We need to explore very carefully this recommendation lest a downgraded incentive factor bog down an essential program."

*continued on page 8*

The fact is, and most congressmen know it, that few states are now in a position to finance a large portion of urban renewal costs. Most of the mayors testifying before the Rains Committee on renewal in Washington just before the budget message was delivered called for *more* rather than less federal participation in the renewal program.

Urban renewal wasn't the only building program that the President backed away from in his budget message. The Department of Health, Education & Welfare had its hospital construction, sewage facilities, and school building programs sliced. Federal grants for hospital construction under the Hill-Burton Act are to be cut nearly in half, from $112 million in fiscal 1958 to $75 million in the coming fiscal year. Said the President: "In view of progress already made toward meeting community hospital requirements for general beds, the federal program should be modified to meet only the most urgent needs . . ." HEW officials dispute this view, claim that the states are still clamoring for 800,000 more beds for general hospitals.

HEW's program for aid in construction of sewage treatment plants wasn't cut for fiscal 1959—municipalities still will get $45 million of federal assistance—but beginning in fiscal 1960, the Administration would like to turn the whole program back to the states. To provide the states with a source of revenue to pay for the program, the federal treasury would turn over to them its tax on telephone facilities.

Federal aid to school construction in areas where federal installations have caused a need for new schools would also be cut under the President's budget proposals, although not right away. This program, also under HEW, would continue at current rates of about $45 to $50 million a year, but in fiscal 1960 it would be cut back to $20.5 million. The budget proposal asked that the present program be modified to apply only to "instances where the federal personnel both live and work on federal property."

While these building programs were being trimmed — or jettisoned altogether — in the budget message, the old-line housing functions performed by such agencies as the Federal Housing Administration, Federal National Mortgage Association and Community Facilities Administration, were generally strengthened. The President asked that many of the credit shackles—such as unrealistic interest rates and cumbersome controls on mortgage discounts—be struck from FHA and FNMA loan and mortgage guarantee programs. He said that FHA, FNMA and other housing agencies "could fulfill their statutory objectives and promote the stability and growth of the economy more effectively if the heads of the various agencies had wider discretionary authority to set the terms on which funds are available to qualified borrowers under federal insurance or guarantee of private loans." (This proposal is not likely to find favor with Congress, which has traditionally been reluctant to let federal housing administrators have much free rein.)

FHA's total underwriting authority would be increased in the budget by $3 billion (or about 10 per cent of the total insurance in force), and this will probably be passed by Congress as a matter of course. However, Administration proposals that FHA's authorizations be put on a four-year continuing basis, will probably not get far. The President had asked for a $3-billion-a-year increase for the next four years in maximum permissible FHA-insured mortgages outstanding. Congress, however likes to have FHA come to it every year for new underwriting authority, so it can use the FHA program, which is so popular with builders and bankers, as a lever to push through other housing legislation.

**DALLAS' TALLEST SKYSCRAPER**

The tallest structure in Dallas is the new, 42-story Southland Life Insurance Co. tower, one of three towers rising from a huge central base that covers a city block in downtown Dallas. Behind the Southland tower is the Sheraton-Dallas hotel, which is 28 stories high. A third tower, an office building of 32 stories, is planned for the future. Architects are Welton Becket & Associates.

SQUIRE HASKINS

**URBAN RENEWAL**

## Ten year renewal need put at $3.2 billion

Before President Eisenhower even proposed his five-year plan for urban renewal, supporters of the federal slum clearance program were marshaling their weapons—largely statistical and oratorical—to insure the program's continuance at least in its present form.

First, the American Municipal Association (AMA) revealed the results of a three-month survey conducted to determine how much federal financial assistance the 400 largest U.S. cities with active urban renewal programs will require in the next ten years. Based on the replies of 236 cities, AMA estimates that federal participation in urban renewal will have to total $3.2 billion over the next ten years—considerably more than any current administration notions about the magnitude of the program. In 1958, the cities expect to request a total of $494 million—almost twice the amount of federal funds that will be available. For the next five years—the period for which the President has requested approximately $1.2 billion in capital grant funds—the cities estimate they will ask for over $1.8 billion.

The AMA, which a month ago came out in support of a program of $500 million a year for renewal and slum clearance (FORUM, Jan. '58), also reported that there were about $260 million of requests for capital grants being processed at the end of 1957.

In the week before the President delivered his budget message to Congress, Representative Albert Rains (D, Ala.), chairman of the House Subcommittee on Housing and a leading urban renewal advocate, held hearings designed to muster support for a continuing and expanded program. Philip F. Tripp, president of the National Association of Housing & Redevelopment Officials (NAHRO) asked for a ten-year, $5 billion federal program. Like most of the others who spoke at the hearings, Tripp emphasized the importance of renewal to long-range national security: "We must recognize that a substantial part of our security is dependent on the continued existence of the urban areas which provide the environment for so much of our educational, scientific, and industrial potential." Tripp also asked for more federal aid to cities for clearing and redeveloping commercial and industrial blight, and for a reduction in the city's share of redevelopment costs. Reiterating NAHRO's convention resolutions, he came out for an expanded public housing program, recommending that the equivalent of 10 per cent of all housing starts per year be federally aided public housing.

A number of mayors, led by Richard C. Lee of New Haven, testified to the renewal program's necessity, too. Lee also asked for a $10 billion, five-year urban renewal program.

Other urban renewal advocates, from Gov. George M. Leader of Pennsylvania and LIFE Publisher Andrew Heiskell to Developer William Zeckendorf, urged that the federal program be continued and expanded. But, as the hearings ended, their pleas were only partially heeded in President Eisenhower's budget message which proposed a measure of continuity—but coupled it with a plan for gradually diminishing federal participation in the renewal program (see page 7). However, Congress, and particularly Representative Rains, still have their innings coming up on the urban renewal program.

---

## Scheuer gets Mill Creek, Sacramento projects

The handful of private developers who are most involved in the remolding of U.S. cities have been scrambling about the nation in recent weeks with these results:

**In St. Louis,** James Scheuer of New York won a top prize in the urban renewal grab bag. Scheuer walked away with the job of building a new residential area on the 465-acre Mill Creek Valley site near downtown St. Louis. Scheuer got the job after the Land Clearance for Redevelopment Authority voted 3 to 2 against William Zeckendorf's competitive proposal.

Scheuer's victory was apparently due in large measure to his cohorts in the redevelopment scheme—a group of local St. Louis realtors and developers. This group is to redevelop the 165 acres of industrial property and 25 acres of commercial property on the site. After the vote was taken, William Zeckendorf Jr. accused the redevelopment authority of favoritism to the local interests, and, by affiliation, to Scheuer. (The Authority later admitted to Mayor Raymond Tucker that localism had played a major part in its voting.)

Zeckendorf had wanted to get the whole Mill Creek job—commercial and industrial as well as residential—and exclusive rights to the adjacent Plaza area project as well. Webb & Knapp's architect, I. M. Pei, had drawn up a plan for the residential area with town houses and high-rise apartments laid out in formal squares and ovals. Some of the authority members seemed to prefer Scheuer's design — done by Mayer, Whittlesey & Glass—simply on the grounds that it was more casual. It features town houses, too, which will be sold as individual homes ($12,000 to $20,000), as well as high-rise apartments, and two- and three-story garden-type apartments.

**In Washington,** Scheuer and Roger L. Stevens got their commitment for a permanent $5.8 million 5 per cent loan under section 220 of FHA's mortgage insurance program. This will finance the first half of the Southwest Area B project, a short distance from the Capitol, and will enable them to start construction this month (just a year behind schedule). Scheuer and Stevens plan to build 80 garden apartments and 402 units in one elevator structure. The permanent financing was obtained from John Hancock Mutual Life Insurance Co. of Boston, which made the loan at a discount to yield 5.05 per cent.

**In Sacramento, Calif.,** Scheuer and Stevens scored another coup last month when they made an agreement with the Sacramento Redevelopment Agency to build 800 apartments, an office building and some commercial structures in that city's Capitol Mall project area at a cost of $15 million. Work is due to begin later this year on clearing the site, which is part of a 62-block redevelopment area.

**In Newark, N.J.,** the Newark Housing Authority announced that it had accepted the offer of Herbert S. Greenwald to build 1,100 units of middle-income housing and commercial structures in the city's Broad Street and Branch Brook redevelopment sites. Shortly before the Greenwald offer was accepted, the Redevelopment Corporation of New Jersey, which had originally agreed to do the project, had to withdraw because of a seven-month stalemate in its negotiations with FHA. The federal agency had insisted the project be built for 13 to 16 per cent less than the $17.6 million Redevelopment Corp. planned to spend.

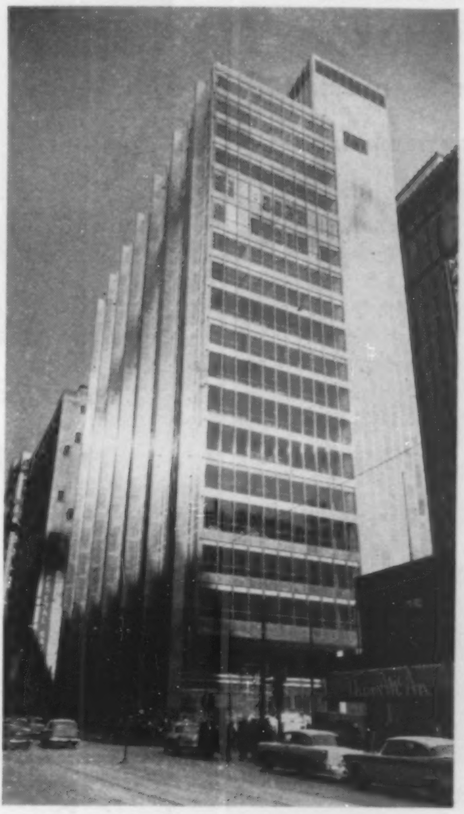
## Court clears Lincoln Square obstacle

An important court decision and a near-record capital grant from the federal Urban Renewal Administration highlight the latest chapter in the stormy history of New York City's Lincoln Square redevelopment project.

The latest legal development is a setback for those merchants and residents in the area who have long opposed the $205 million project. State Supreme Court Justice Owen McGivern ruled that resale of part of the property to Fordham University would not violate guarantees of separation of church and state, and that federal and state moneys paid in the form of write-downs on the land did not constitute any "gift or subsidy" to Fordham or other redevelopers. "In hard reality," McGivern

*continued on page 11*

KAUFMANN & FABRY



**IN CHICAGO, A NEW OFFICE BUILDING**

**Chicago's first new office building in over 20 years, the Inland Steel Building at Dearborn and Monroe Streets was being occupied early this month. Designed by Skidmore, Owings & Merrill, the building is a glittering glass and steel jewel in Chicago's slowly redeveloping downtown. The top eight floors of the 19-story structure will be occupied by Inland. One of the tenants in the fully rented lower floors: SOM itself, taking two and a half floors for its Chicago office.**

**HOW BIG IS A PATTERN?**

A noted educator in interior design has urged that vinyl wall covering patterns be made large enough to be seen at a distance. Many architects, on the other hand, champion textured surfaces with patterns on a very small scale. Most Cotan Cohyde fabrics are styled in small designs, in smooth and rough textures; a few in larger patterns (notably our Harlequin*). How big should new patterns be? We'd be happy to hear from advocates of both sides.

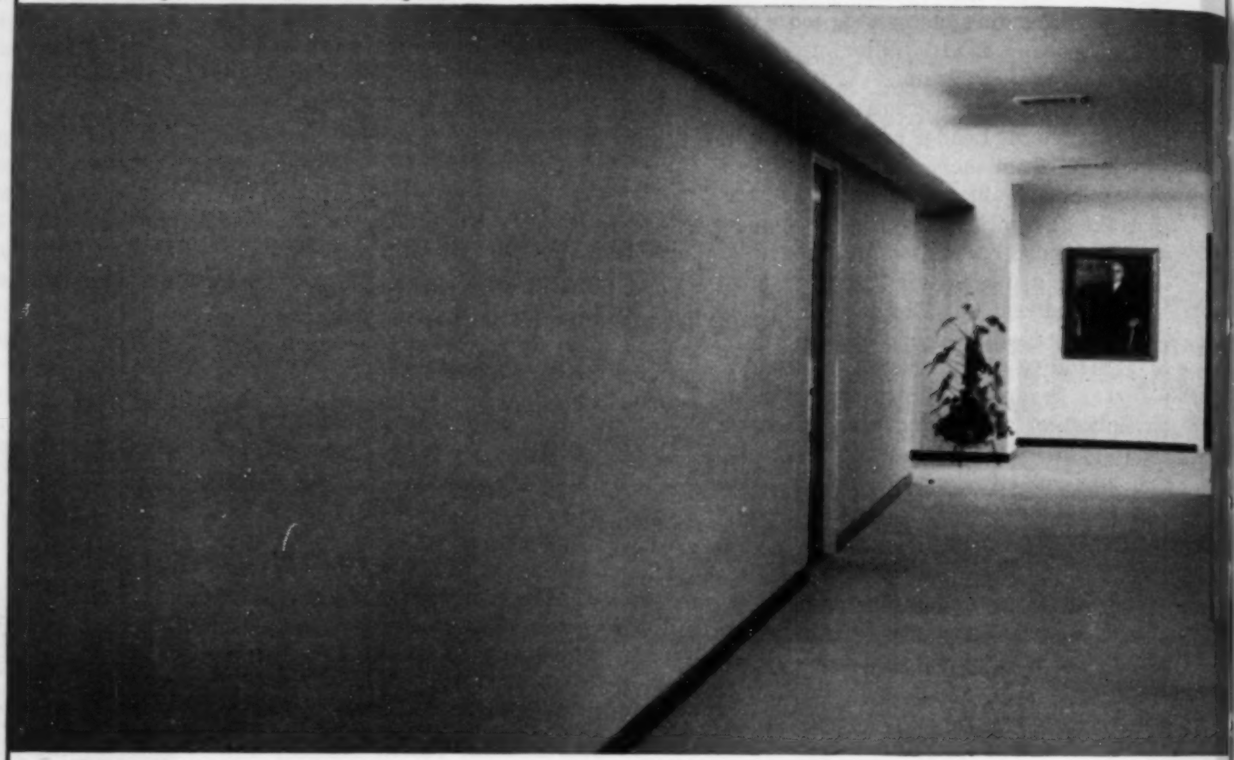
**WIDER PALETTE**

Every time we add a pattern or texture to the Cotan line we work out a completely new range of colors. As a result, our wall coverings are now available in 175 different shades. Designers find it far easier to meet specific color needs with this wider palette. And special non-stock colors can still be made when necessary. Your nearest Cotan distributor will prove most helpful in discussing particular color requirements.

**SPECIFICATIONS, PLEASE**

We've listed architects' specifications, installation instructions, physical characteristics and our regional distributors in a new illustrated folder on Cotan vinyl fabrics. You'll find it informative and useful for reference. For your copy, write to Dept. F, Cotan, 345 Oliver Street, Newark, N. J.

*Smith, Barney & Co., New York City*
*Maria Bergson Associates, Interior Designers*



## Cotan* Wall Coverings cost next-to-nothing to maintain

Heavy-duty Cotan Cohyde* is a most dependable vinyl fabric. It holds its attractive "opening day look" for years and years, and maintenance costs stay close to zero. We make this premium product scuff-resistant, stain-resistant and wear-resistant.

**Cotan Cohyde** **Vinyl Fabrics for walls and upholstery**

**product of the Interchemical Corporation** **Cotan Division**

**Cotan, Cohyde and Harlequin are trade marks of Interchemical Corporation*

said, "to exclude Fordham or any other sectarian institution from great overall community planning efforts, such as the Lincoln Square project, would be to relegate such institutions to the other side of the tracks."

Lincoln Square opponents immediately appealed McGivern's decision, and their legal efforts prevented the city from taking title to the 68-acre project area by the January 31 target date. City attorneys argued before the Appellate Division that further delays might cause other sponsors of the development to pull out of the project completely.

While the legal hassle continued, the federal Urban Renewal Administration finally approved a $27.3 million capital grant for the Lincoln Square project. This will cover two-thirds of the net deficit resulting from purchase and clearance of the land. The city will pay the remaining one-third.

Another smaller, but nevertheless controversial, New York redevelopment project moved a step closer to completion last month when the city's Board of Estimate approved the $12.5 million Park Row project. This project will be near City Hall in lower Manhattan. Its most striking feature is that its sponsor is a cooperative housing corporation formed by the city's Municipal Credit Union with the help of the State Credit Union League. Once land is cleared, the credit union plans to build 400 units on the site. Because the project will necessitate razing venerable St. Joachim's Roman Catholic Church, it has been fought by parishioners. Also, the question of tax exemption still has to be settled by the Board of Estimate before Park Row can move into the actual development stage.

### MILITARY BUILDING

## Bomb shelter controversy revived by two reports

One of the most provocative arguments of our time is getting underway in Washington this month. It centers specifically on proposals for a vast program for building protective shelters against nuclear attack, and encompasses the question—still unanswered after 12 years of cold and hot war—of where a shelter program should stand in relation to our total defense.

This time the question of shelters is being argued before the House Military Operations subcommittee in Washington, in an entirely new framework—the Russian Sputniks and missile capabilities have put the U.S. in a seriously defensive state of mind. Perhaps more important than the House hearings are the private deliberations on shelters now going on within the Administration—and in the Pentagon. In his budget message, President Eisenhower devoted only one terse sentence to shelters: "The question of a shelter program is under consideration and tests of various types of shelters are continuing." But the brevity of the statement should not be considered a measure of the seriousness with which the Administration regards the problem.

The basis for the Administration's current shelter discussion lies in two reports, the still secret Gaither report and the Rockefeller report which was made public a few weeks ago. The consensus of expert opinion about the shelter portions of the Gaither report is that they recommend a shelter construction program, primarily for radioactive fallout protection, which would cost $22 billion. Construction would be stretched out over five years or possibly more. The size of the shelter program advocated in the Gaither report is said to have surprised the Administration, and set off a broad re-examination of the whole civil defense program.

The other report was made by the Rockefeller Brothers Fund. It recommends a three-part civil defense program:

- ▶ A warning system, including a means of gathering "information about radiological levels."
- ▶ "Protection against fallout. A fallout shelter program could reduce casualties substantially."
- ▶ "Protection against atomic blast and heat. A deep shelter program should be carefully studied."

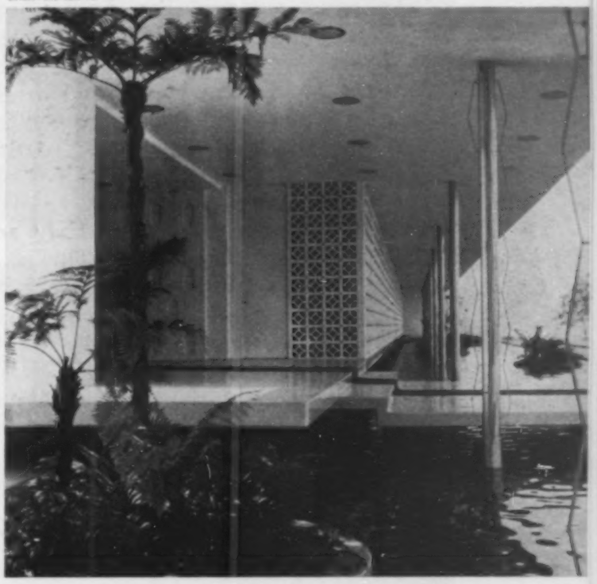
The Rockefeller report also touched on what is certain to become a major source of argument, at least by the time Congress turns its full attention to the shelter problem in coming weeks: Can we really protect against nuclear blast, or only against fallout? If only the latter, does it make sense to build shelters in heavily industrialized target areas, which would be leveled by nuclear blast, or just to build fallout shelters in outlying areas?

Washington observers say that any shelter construction program such as recommended by the Gaither and Rockefeller reports will run into strong opposition from many within the Administration, both on military and budgetary grounds. Some military spokesmen are understood to oppose a big shelter program because they believe that the money spent for shelters is better spent to increase our military capability, which, they argue, is the best defense we have. The counter argument to this, and one that evidently swayed the Gaither group, is that if the country is unable to muster enough energy for a counterblow following a nuclear attack, because of expected heavy losses of life, all the defensive weapons in the world wouldn't help.

A large shelter building program has been steadily gaining support from other sources, too. Dr. Edward H. Teller, noted atomic scientist, told a Senate hearing that fallout shelters were absolutely essential to the nation's survival. Last month, TIME, INC. Editor-in-Chief Henry R. Luce, speaking at Founder's Day exercises at the University of Pennsylvania, came out for a shelter program costing $2 billion to $3 billion a year, with expenses shared by federal, state and local governments. "Shelters," Luce said, "are not only a practical but a moral necessity."

*continued on page 12*

MARVIN RAND



**IN PASADENA, PILLS BEHIND THE FILIGREE**

"Can this place also make pills?" was the wondering query of Arthur Hanisch when he first ambled through the sparkling new pharmaceutical factory designed by Edward D. Stone. Hanisch, president of Stuart Co., hired Stone to design the plant after seeing a picture of Stone's New Delhi embassy (FORUM, Dec. '57). The $3 million building has much of the airy charm of the embassy, with a 400 foot white-and-gold filigree façade, black-bottomed reflecting pools and five fountains. Inside, the building has a central inner court which can be used as a dining area.

# Philadelphia grand jury probes hospital cracks

Last summer, a special grand jury set out to investigate the sudden appearance of large cracks in the walls of a new $3.4 million food service building at Philadelphia's General Hospital (FORUM, July '57). Last month, the verdict was returned: although no criminal negligence was found, the jury charged that the incompetence of public officials and the ignorance of the building's architects resulted in unnecessary costs estimated at $70,000.

The jury's decision was heavily influenced by a special report made by an investigating team of three architects and an engineer: Philadelphia Architects Morton Keast, David H. Morgan and Walter Antrim, and New York Engineer Fred N. Severud. This group of experts decided that the major cause of the cracks in the building was an exposed continuous concrete canopy on the roof which was put in without expansion joints.

The panel analyzed the problem as follows: "The canopies at the roof level are directly exposed to heat and cold. Since the building is heated and insulated, this means that these canopies must of necessity behave differently from the rest of the building. When the sun shines upon them they absorb the heat and expand, particularly so since they are not insulated. This expansion will produce a kick against the rest of the building not heated by the sun to the same extent. As night falls, and during winter, when very cold weather sets in, the opposite action takes place, and the canopies exert a gigantic pull on the structure. The forces engendered are dependent upon the temperature differential, and are, in extreme cases, of a very large order."

The "kick" that is produced by this sort of action is enforced, in the case of the hospital building, by a stair well wall that runs the height of the building, and acts as an anchor. Thus, the whole building in effect twists when expansion or contraction takes place.

The question of responsibility for such a defect was hard to fix. For one thing, the original architect, Eugene Stopper, died in 1951. Most of the public officials involved have passed from the scene. But the four experts, while naming no names, made a forthright statement pertinent to both the engineering and architectural professions: "It seems to us that it was the original designing engineer who should have been aware of the danger inherent in constructing the canopies continuously, without any joints whatever. . . . However, this knowledge of concrete canopy reactions was not generally known at the time of the preparation of the working drawings of this building in 1950." They went on to say that "Actual responsibility for faults in the construction of the building must rest on the original architect. . . ."

The experts feel that the faults can be remedied by cutting the canopy and putting in expansion joints where necessary, and rebuilding cracked masonry.

The grand jury noted that, "We are convinced that if this building had been constructed for private industry the owners would have been more careful in attending to the building deficiencies."

---

# Feud between builders and county supervisor mars completion of Pittsburgh hospital

"An architect's dream, but a builder's nightmare."

That was the tag hung on the $22.4 million John J. Kane Hospital for the aged that was dedicated this month in Scott Township, just south of Pittsburgh. Ever since excavations were started more than three years ago, this Allegheny County project has left a trail of grief for most of its builders and subcontractors. Its completion is about 15 months behind schedule.

Several weeks ago, the job's troublesome record got a widespread public airing when Harry L. King, project engineer for the county, charged that workmen had cost builders and suppliers $250,000 by helping themselves to all sorts of equipment, fittings, and supplies. King said mercury switches, towel bars, door hinges—and even 30 toilets—had been stolen.

This charge brought bubbling to the surface many gripes that builders had grumbled about for three years. The gist of their retort was: Sure there has been pilfering, but no more than usual on such a job, and nothing like $250,000 worth; the biggest source of loss and delay has been the County Engineer, King himself.

The most vehement denunciation of the Kane project comes from Mrs. Dorothy Sherry, widow of Builder Harry Sherry, who, until his death over a year ago headed Sherry-Richards Co., the major contractor on the job. Mrs. Sherry says the firm lost "$2 million and then some" on the project, and adds that she "lost more than just money. That project killed my husband."

Shortly after Sherry died, his bonding company took over responsibility for completion of Sherry-Richards' $13.3 million contract, and S. N. Nielson, also a Chicago construction firm, has taken over actual completion of the work.

Mrs. Sherry says that virtually all the subcontractors have lost money on the job, too, and some have admitted to losses.

Most losses resulted from King's interpretations of job specifications, say the builders. His interpretations caused some costs to run as much as 50 per cent higher than original bids, they say. One example was a running battle King waged with contractors over the handling of concrete. Contractors claimed that original specifications called for covering newly laid concrete with paper while it was drying. King, however, maintained that the concrete should be continuously wet down while curing. He compelled the contractors to wet it, resulting, they say, in unforeseen added costs. In another instance, the contractors won a concrete hassle. Early in the project, workers were ready to pour concrete in 22 degree weather, but the County Supervisor ordered them not to proceed. Despite the order—and the threat of using county police to back it up—the company foreman ordered the concrete poured anyway. It did not freeze and the contractors won at least this one skirmish.

The hospital has three main structures: an eight-story general hospital for bed patients; a three-story semi-ambulant section; a two-story ambulant section with easy access to an auditorium and chapel. The hospital was designed by two Pittsburgh firms, Mitchell & Ritchey and Button & McLean.

The center of the storm, County Supervisor King, is a 50-year-old Yale graduate who once worked as an inspector on construction of the Pentagon and who was with the National Housing Administration (now HHFA) before moving to Pittsburgh. Engineer King dismisses all the charges leveled against him with a simple comment, "They can't take it." About charges that he is not only a perfectionist, but changes his mind with disturbing frequency, resulting in hefty losses for contractors, King says, "All I've done is make them conform to specifications which were available to them at the time they submitted their bids. If I really wanted to tighten up on this job, then it really would get rough."

MISCELLANY

## Canada's wrong way bridge, a $12,000 error

"It could happen to anyone." That is what everybody concerned with the project replied when questioned about how it happened that a new approach to an overpass on the multimillion dollar Burlington Skyway near Hamilton, Ontario was banked the wrong way.

No one noticed the mistake until after the approach and the $150,000 overpass were almost built. Then the chagrined engineers had to rebank the approach with more gravel and concrete to get the proper slope. Cost to repair the blunder: $12,000.

One explanation of the error, which occurred over four months ago, but was made public only a few weeks ago, was that the designing engineer got his compass directions scrambled, and thereby got the slope going west instead of east—or was it east instead of west? At any rate, an engineering consultant for the Skyway explains it this way: "The design for such an overpass goes through several hands. The planning begins with the Highways Department of the Provincial government, which decides on locations and levels. The bridge section of this department fills in all the structures, such as this overpass. The basic figures are established and turned over to firms of consulting engineers." The mistake, he says, "occurred somewhere between the first studies of the highway and the completion by our firm of the erring design."

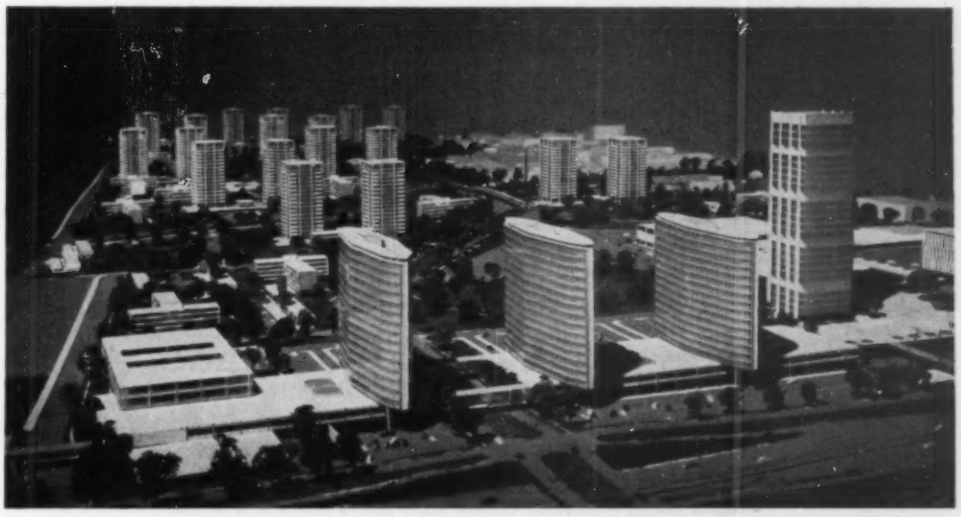
## Skouras reveals plans for $300 million L.A. project

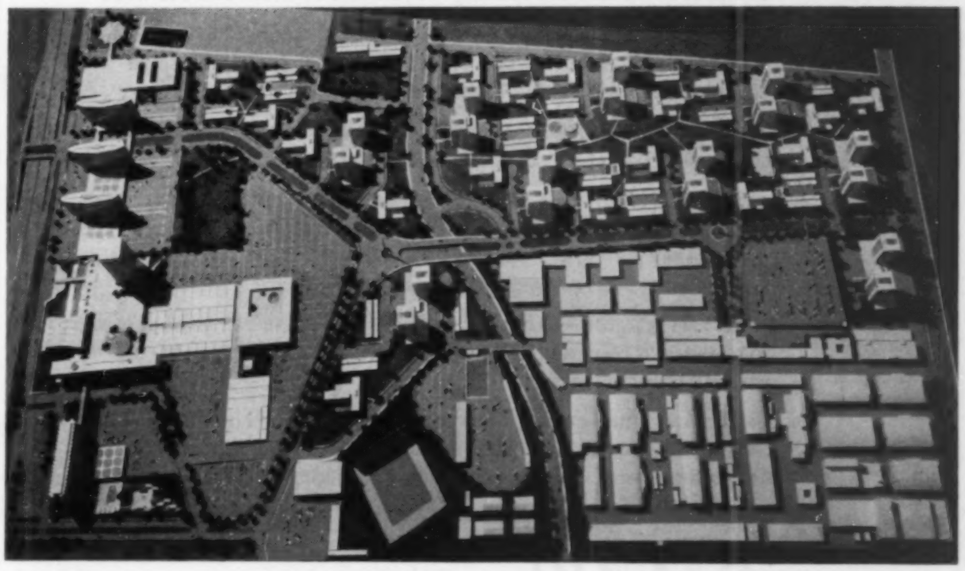
"We're going to make this more than just another business development," says Spyros Skouras, president of Twentieth Century-Fox, referring to his plan to redevelop the 284-acre Fox movie lot in Los Angeles. "It's going to be cultural, too."

Among the cultural amenities: a 4,000-seat auditorium and 79 acres of movie and TV studios. But Skouras will cram a lot of business in among the culture. As designed by Architects Welton Becket & Associates, Skouras' development in West Los Angeles calls for just about everything you could find in any large city—stores, apartments (with swimming pools), a 1,000-room hotel, garages, and even underground oil pumping stations for Fox's lucrative oil business.

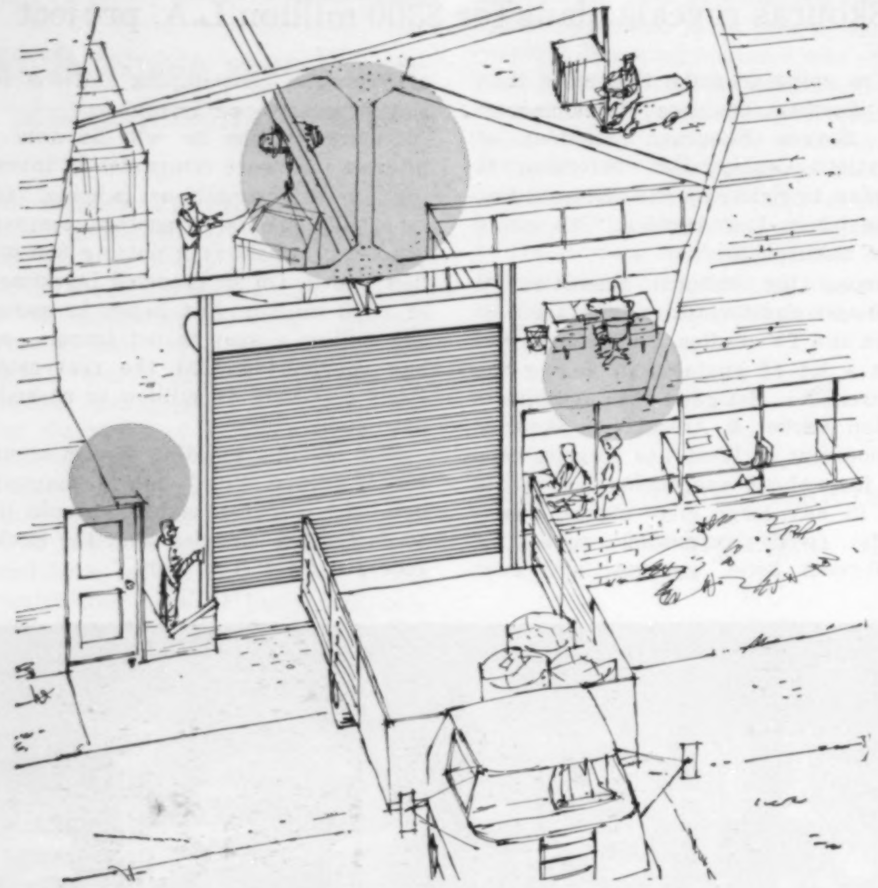
Skouras thinks he will be able to interest insurance companies in investing in this ambitious scheme, and reportedly one large eastern company is already considering putting $50 million into it. On an expected investment of $300 million, Fox hopes to garner $36 million a year in net income—not bad considering that the real estate itself cost only $1 million to assemble over many years.

Still shifting building models around his "Century City," movie magnate-developer Skouras says: "I would like to do for Los Angeles what the Rockefellers did for New York."





RADIO CITY OF THE WEST is the ambitious plan of Twentieth Century-Fox President Spyros Skouras. Besides apartments, stores and hotel, he plans to build eight new office buildings along Santa Monica Blvd., highlighted by three 22-story "lens-shaped" structures, and one 30-story office tower (top picture, foreground) that wil be higher than any building in Los Angeles. Lower picture shows commercial area (left) well separated from residential development (upper right). A mile-long mall runs through the heart of the project.



**Balfour rolling steel doors "add" all this usable space**

*...and insure complete security*

**Only** rolling steel doors combine all these features

- **Space Saving** — Balfour rolling steel doors coil into a single compact unit above the opening . . . valuable adjacent and overhead areas remain unobstructed.
- **Extra Security** — Balfour's all steel construction assures positive protection against theft and vandalism, fire and wind.
- **New Time-Labor Economy** — Speedy up and down action is virtually effortless, whether operated manually or by motor.
- **Durability** — Balfour quality rolling steel doors last for decades under the most extreme conditions. Maintenance costs are minimal. Accidentally damaged slats may be replaced easily and inexpensively. Heavy zinc coating provides extra resistance to corrosion.
- **Ease of Application** — Balfour doors are simple to install and adaptable to all types of construction. They are custom manufactured to any size requirements.

See Balfour's new catalog in Sweet's Files. You'll find it one of the most comprehensive and easy-to-use guides to service, fire and counter door specifications ever presented. For your personal copy write to Balfour today.

Balfour
rolling doors

**Walter Balfour & Co. Inc. Brooklyn 22, New York**

WASHINGTON

## Commerce-BLS statistics struggle gets hot

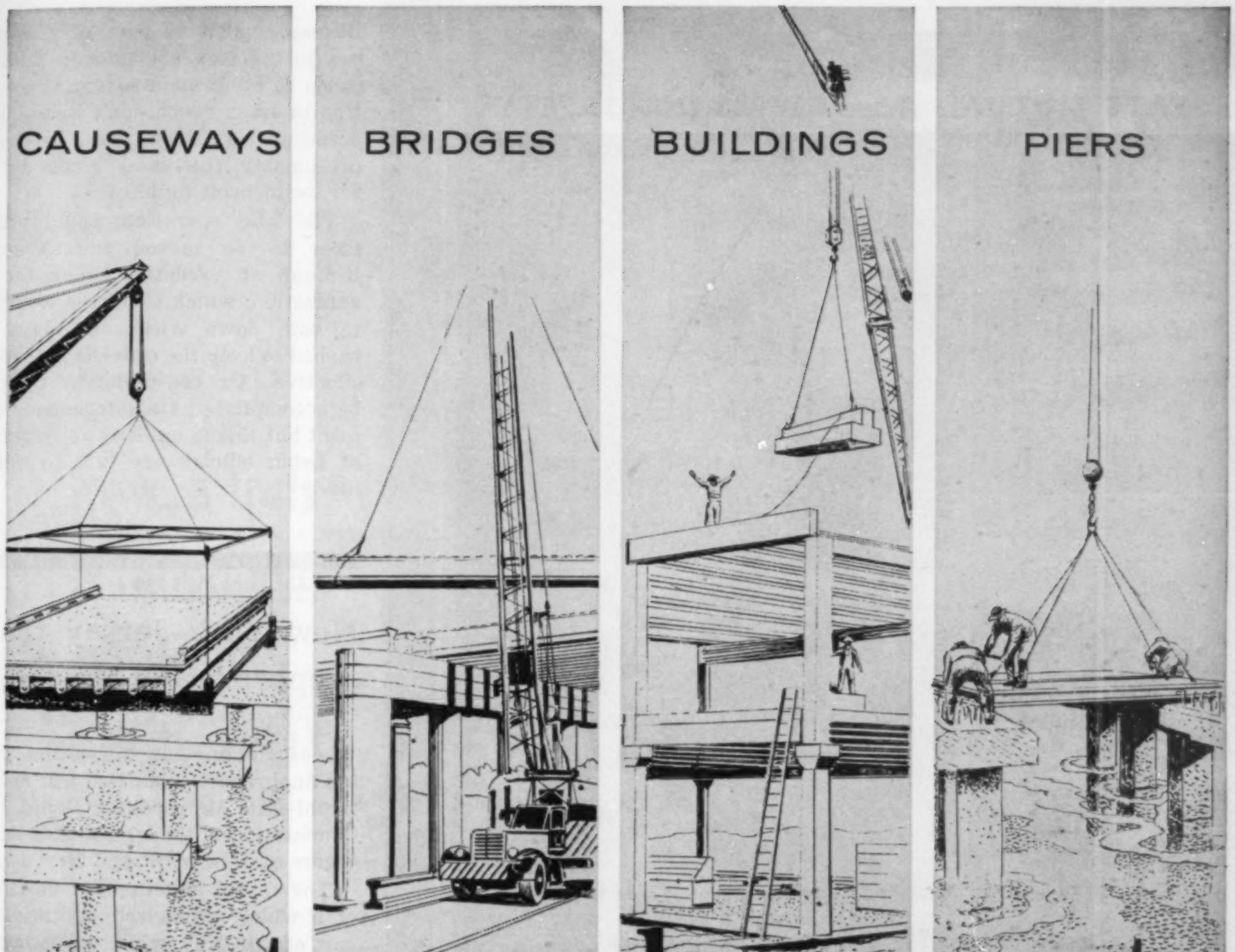
Behind the dull façade of federal statistics gathering, a fierce bureaucratic struggle is taking place. Combatants are the Department of Commerce and the Bureau of Labor Statistics, a division of the Department of Labor. The prize: complete jurisdiction over the gathering and collating of all federal statistics on construction and housing.

Commerce made preliminary moves to absorb BLS, say Washington observers, when it set up a new Office of Construction Statistics last month. This unit, to be headed by Walter W. Schneider, will consolidate the gathering of all Commerce's present building statistics into an independent branch of the Business & Defense Services Administration within Commerce. At present, Commerce gathers figures on commercial, industrial, and state and local government construction volume. BLS reports on residential and federal building.

Behind the scenes is the ever watchful Budget Bureau, which is interested in economies that presumably would result from the consolidation of the two agencies. Last year, the Budget Bureau tried to push the Commerce operation into BLS, but Commerce Secretary Sinclair Weeks squelched the move. Now, evidently Budget wants to move in the other direction, and is reportedly agitating quietly for a merger.

Many building industry groups are supporting the move to put BLS into Commerce, largely on the grounds that Commerce is most directly concerned with aiding business with its statistical and economic studies. The AFL-CIO, on the other hand, has promised it will fight any efforts to move BLS into Commerce. Most economists have supported some sort of consolidation of construction statistics in order to get more coherent figures. The recent Census showing a difference of some 20 per cent, or 2.7 million units, in BLS figures and housing census figures has opened to debate the BLS system of measuring starts by checking metropolitan area building permits. Unofficially, Commerce thinks it can measure starts better by making field surveys in areas where building permit enforcement is lax or nonexistent. The Census

*continued on page 16*



# prestressed concrete means

## QUALITY...DESIGN ECONOMY...SPEED OF CONSTRUCTION

Only specialists can provide *all* the advantages of prestressed concrete products. That's why it pays to do business with Freyssinet Affiliates. Each Affiliate operates a product plant equipped to manufacture *any type or size* of concrete structural unit on universal pretensioning beds. And, highest standards of design and quality control during production are assured because each Affiliate retains skilled Freyssinet engineers.

Your inquiries about prestressed concrete—its applications, economies, qualities or specific job analysis—are invited. Simply get in touch with the Freyssinet Affiliate nearest you.

**FREYSSINET AFFILIATES**

**The Dextone Company**
166 Chapel Street
New Haven, Conn.

**Empire Prestressed Concrete of Oregon**
9255 N. E. Halsey Street
Portland, Oregon

**Goodstone Mfg. Co. Inc.**
470 Hollenbeck Street
Rochester, N. Y.

**Economy Cast Stone Co.**
15 East Franklin St.
Richmond, Virginia

**F. Hurlbut Co.**
Green Bay
Wisconsin

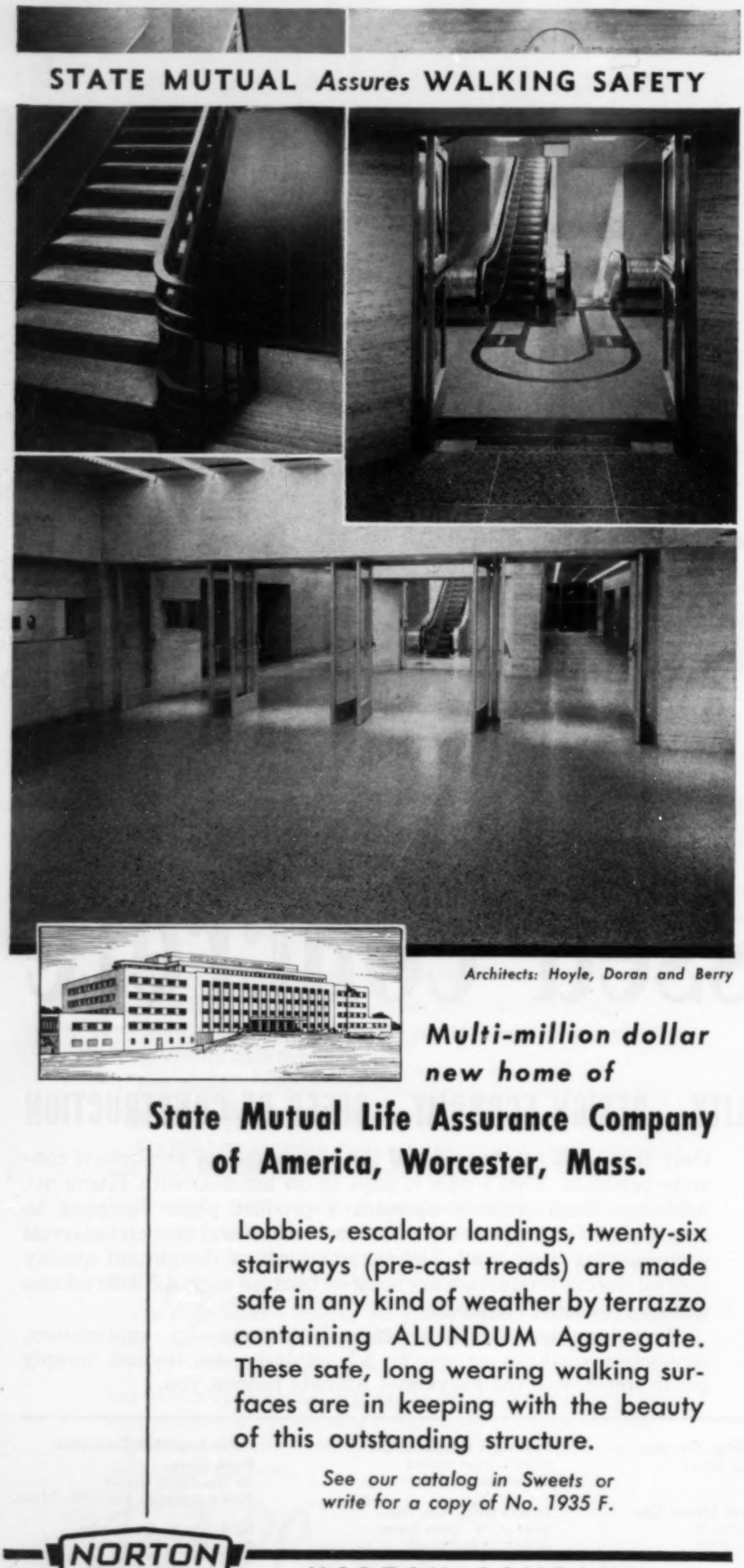
**Formigli Corporation**
2050 Locust Street
Philadelphia, Pa.

**Lewis Mfg. Co. Inc.**
3044 S. W. 28th Lane
Miami, Florida

**Precrete, Inc.**
130-01 Northern Blvd.
Corona, N. Y.

**New England Concrete Pipe Corp.**
99 Needham Street
Newton Upper Falls 64, Mass.

**Mid-South Concrete Pipe Co.**
1977 Chelsea Avenue
Memphis, Tennessee



STATE MUTUAL *Assures* WALKING SAFETY

*Architects: Hoyle, Doran and Berry*

***Multi-million dollar new home of***

**State Mutual Life Assurance Company of America, Worcester, Mass.**

Lobbies, escalator landings, twenty-six stairways (pre-cast treads) are made safe in any kind of weather by terrazzo containing ALUNDUM Aggregate. These safe, long wearing walking surfaces are in keeping with the beauty of this outstanding structure.

*See our catalog in Sweets or write for a copy of No. 1935 F.*

NORTON
NON-SLIP FLOORS

NORTON COMPANY
WORCESTER 6, MASS.

ALUNDUM AGGREGATE for Terrazzo and Cement • ALUNDUM STAIR and FLOOR TILE

Bureau, which is part of Commerce, has just gotten $500,000 in additional funds to study nonresidential construction in areas which don't issue building permits (e.g., most rural areas), and presumably the same could be done for residential building.

The BLS operation would probably have to be moved into Commerce through an executive order for reorganization, which Congress would have to vote down within 60 days if it wished to keep the order from becoming effective. Or consolidation could also be accomplished via interagency agreement but this is unlikely as Department of Labor officials are sure to fight the move.

METROPOLITAN PROBLEMS

## New York–Jersey transit report meets opposition

Almost unanimous opposition greeted the final report submitted last month by the bi-state Metropolitan Rapid Transit Commission to the legislatures and governors of New York and New Jersey.

The report is actually a modification of a widely publicized preliminary report of last May, which recommended a $400 million rapid transit loop with an underground arc on the Jersey side, a new Hudson River crossing at 59th Street and a tie-in with existing BMT subway tracks. The latest report recommends new trackage and tunnels for the Hudson & Manhattan RR, in the same pattern as the first report. But, citing testimony of New York City Transit Authority head, Charles Patterson, that the BMT system isn't adequate for the anticipated increase in traffic, the report recommends a new subway line from the Battery to 59th Street. The whole system would be run by a bi-state commission. Total cost: $500 million. Annual deficit for the system: $7 million if fares are set at 50¢ for a one-way trip.

New York's Mayor Wagner, and the mayors of Jersey City and Newark, as well as county leaders in Jersey, have come out against the plan, largely on the grounds that it is too costly. So far, at least, the mayors and county officers of the affected areas don't seem to agree with the commission's statement that "The cost will be large; but the cost of inaction is already far larger and will progressively grow still larger."

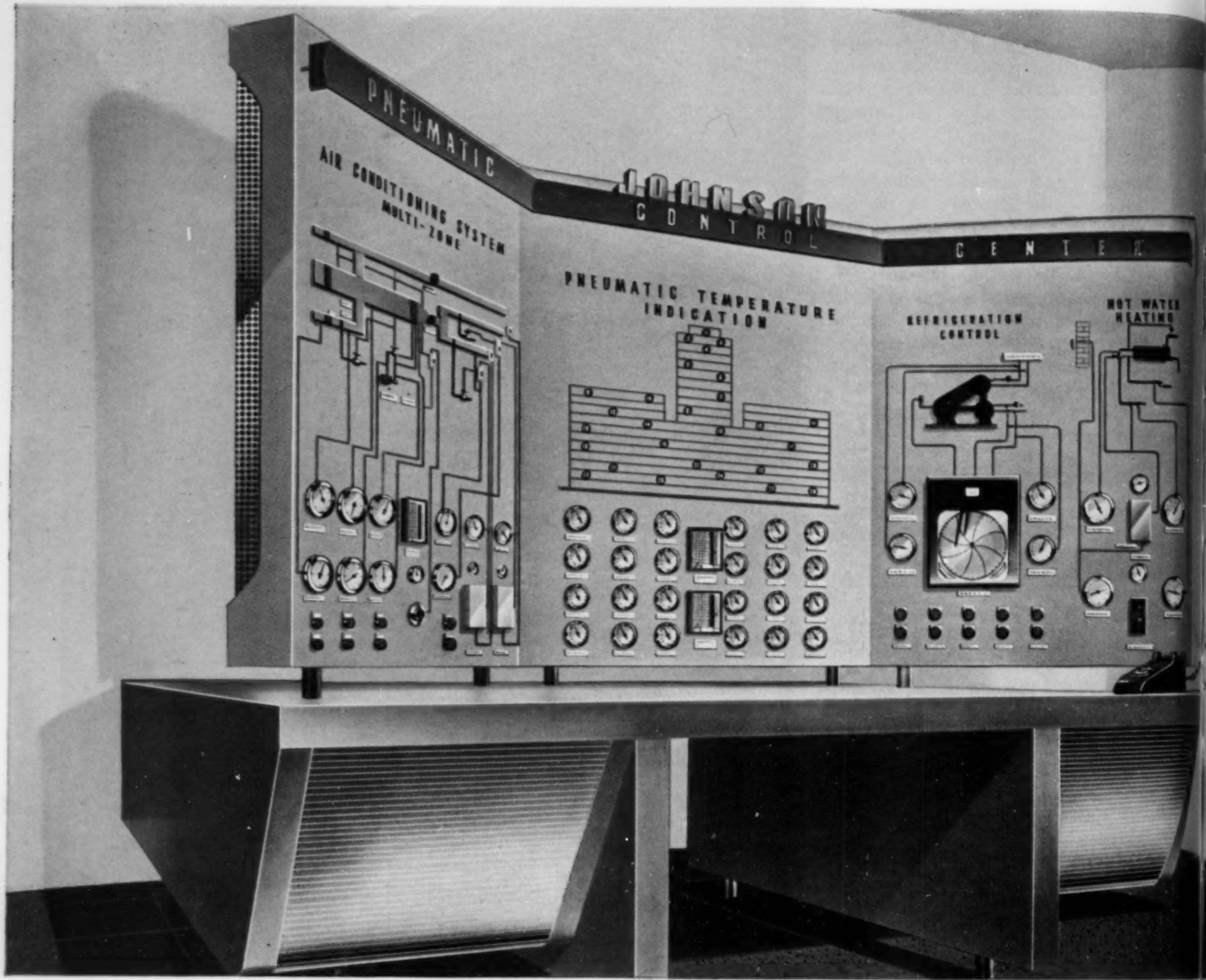
## Now.. a truly functional wall covering with beauty!

CURON*, the versatile new Wall and Ceiling Covering developed by Curtiss-Wright, makes possible an entirely new decorating concept for commercial and residential interiors. Beautiful texture combines with superior thermal and acoustical properties to create a soft, cushion-like wall covering unique in comfort and sound control. A wall and ceiling treatment of luxurious CURON gives a degree of sound control many times over that of a standard acoustical tile ceiling installation — as well as excellent thermal insulation. CURON is, of course, a perfect frame for fine furnishings.

**And for hotels, banks, offices** — and all your commercial installations — CURON offers the prestige and dignity so vital to a successful decor. Twelve standard CURON colors are immediately available, and matched colors can be ordered: plain or striated surfaces in 10″ squares or 24″ wide rolls. For full information, write CURON Division, Section 6, Curtiss-Wright Corporation, 50 Rockefeller Plaza, New York 20, New York.

*CURON is a trademark of Curtiss-Wright Corp.

Curon® WALL COVERING CW


PNEUMATIC
AIR CONDITIONING SYSTEM
MULTI-ZONE
JOHNSON
CONTROL
CENTER
PNEUMATIC TEMPERATURE INDICATION
REFRIGERATION CONTROL
HOT WATE
HEATIN

# Add the Final Touch of Magic

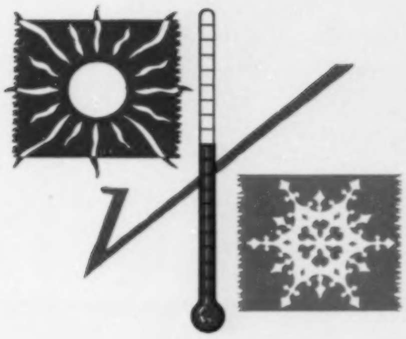
**JOHNSON PNEUMATIC CONTROL CENTERS**

Perfection of the Pneumatic Control Center by Johnson is bringing major savings in heating and cooling costs as well as greatly improved temperature control to buildings of all types and sizes.

The Johnson Pneumatic Control Center gives the building engineer *centralized* supervision and regulation of the air conditioning and heating system. It provides him with a *continuous*, comprehensive visual display of all the vital operating data necessary to maintain the exact temperature conditions required. Simultaneously, it assures that all components of the system constantly function at peak efficiency.

### A GLANCE TELLS ALL

By simply scanning the panel, for example, the operator can check space temperatures and water and air supply temperatures at strategic control points throughout the system. *Equally important, he can make any necessary adjustments of key temperatures instantly, right at the panel!*



*Sizes, layouts and styles of Johnson Pneumatic Control Centers depend upon the specialized needs of the individual building. Each is planned separately with the building's engineer and architect.*

# to Your Air Conditioning!

## ONE MAN DOES EVERYTHING

Thus, the operation of even the most complex air conditioning and heating systems is reduced to a one-man job! Instead of an operating *crew* checking performance and making adjustments at widely scattered locations, one man does it all from the panel! In effect, he can be in 20 or 30 or more places at once!

This coordinated, unerring control assures a uniformly ideal environment to meet every comfort and work requirement of any modern building. It results in large reductions in fuel and power consumption and prolongs equipment life.

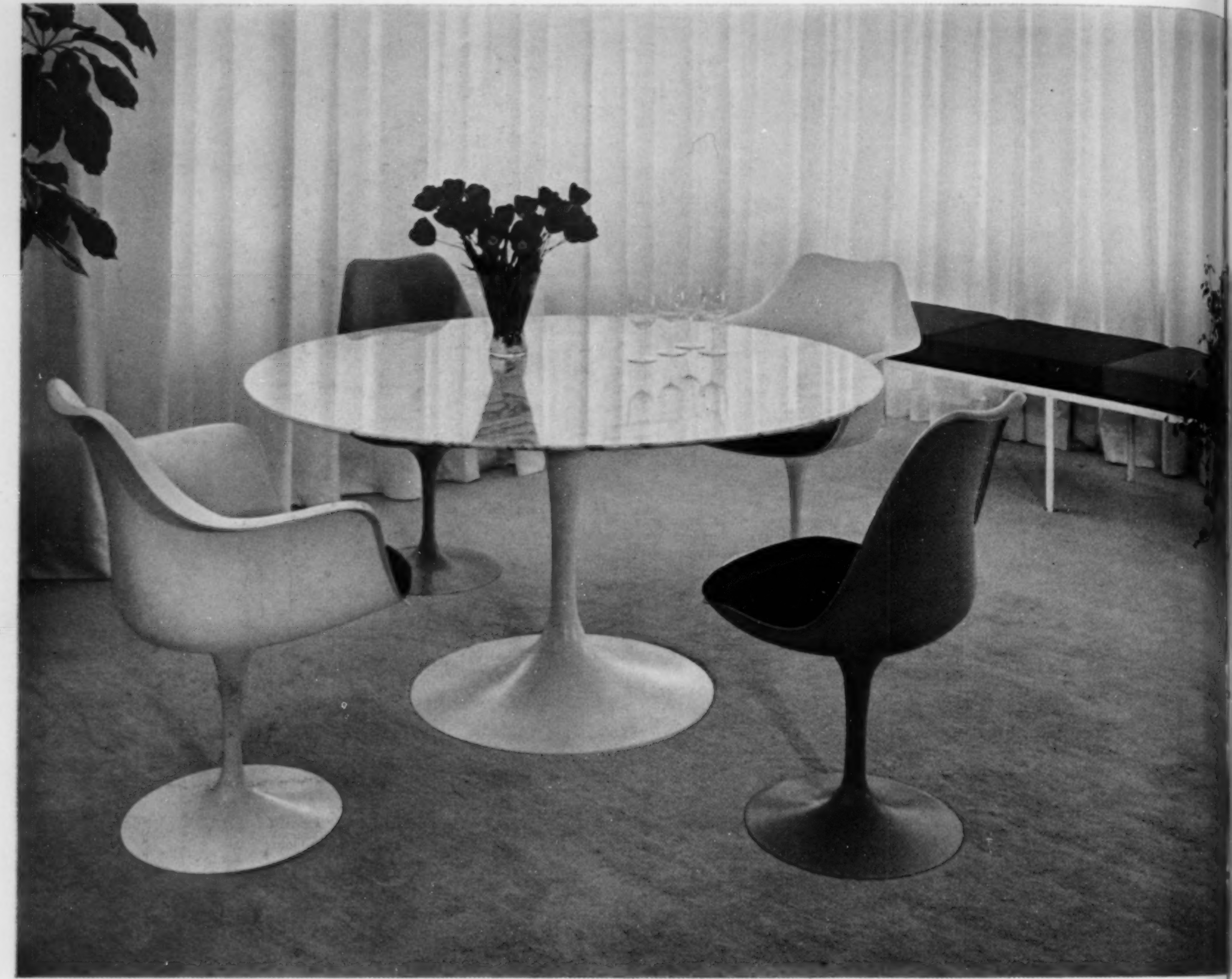
Remarkably easy to understand and operate, the Pneumatic Control Center requires no extensive study or training. Its components are as simple and inexpensive to use and maintain as the pneumatic controls used elsewhere in the building. Dramatic styling adds an exciting architectural asset when the Center is located in public view.

## ECONOMIC ADVANTAGES IMPRESSIVE

What the Pneumatic Control Center means in terms of greater comfort, manpower savings and more efficient heating and air conditioning performance is obvious. It not only pays for itself in a hurry, but it keeps right on paying off over the life of the building!

Pace-setting Johnson Pneumatic Temperature Control Systems with Control Centers are now being installed in many of the nation's finest offices, stores, hotels, hospitals, industrial plants, schools and public buildings. Before you build or modernize, ask your local Johnson branch for full details or write Johnson Service Company, Milwaukee 1, Wisconsin.

**JOHNSON CONTROL**
**PNEUMATIC SYSTEMS**
DESIGN • MANUFACTURE • INSTALLATION • SINCE 1885



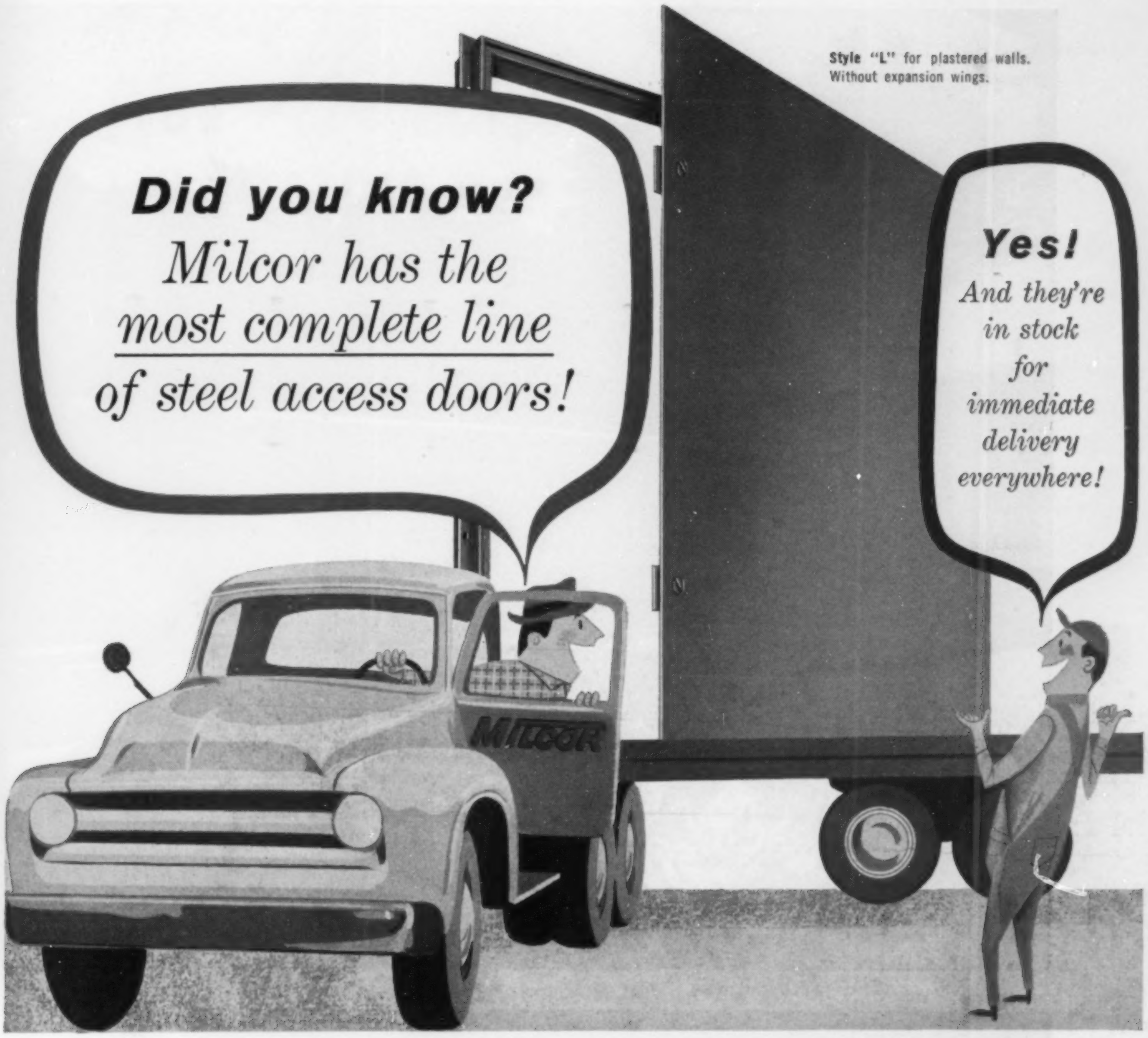
NEW SINGLE PEDESTAL DESIGNS BY EERO SAARINEN.

MAY WE SEND YOU AN ILLUSTRATED BROCHURE?

KNOLL ASSOCIATES, INC. FURNITURE AND TEXTILES

575 MADISON AVENUE, NEW YORK 22

BOSTON, CHICAGO, DALLAS, DETROIT, MIAMI, SAN FRANCISCO, WASHINGTON, PUERTO RICO


Did you know?
Milcor has the most complete line of steel access doors!
Yes! And they're in stock for immediate delivery everywhere!
MILCOR

Style "L" for plastered walls. Without expansion wings.

## You can depend on Milcor quality

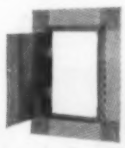
Here are five important reasons why it pays to specify Milcor Steel Access Doors:

1. **Wide selection** of standard and special doors.
2. **Immediate availability** — no holdups on the job.
3. **Trouble-free operation** and quality that will endure.
4. **Flush installation** contributes to clean, modern design.
5. **Economy** — they cost no more than ordinary doors.

See the Milcor Catalog in Sweet's—Section 12a /In—
or write for Catalog No. 202.

NEW — Style "A" for acoustical tile up to one inch thick.

Style "M" for masonry, brick, stone, tile, etc.



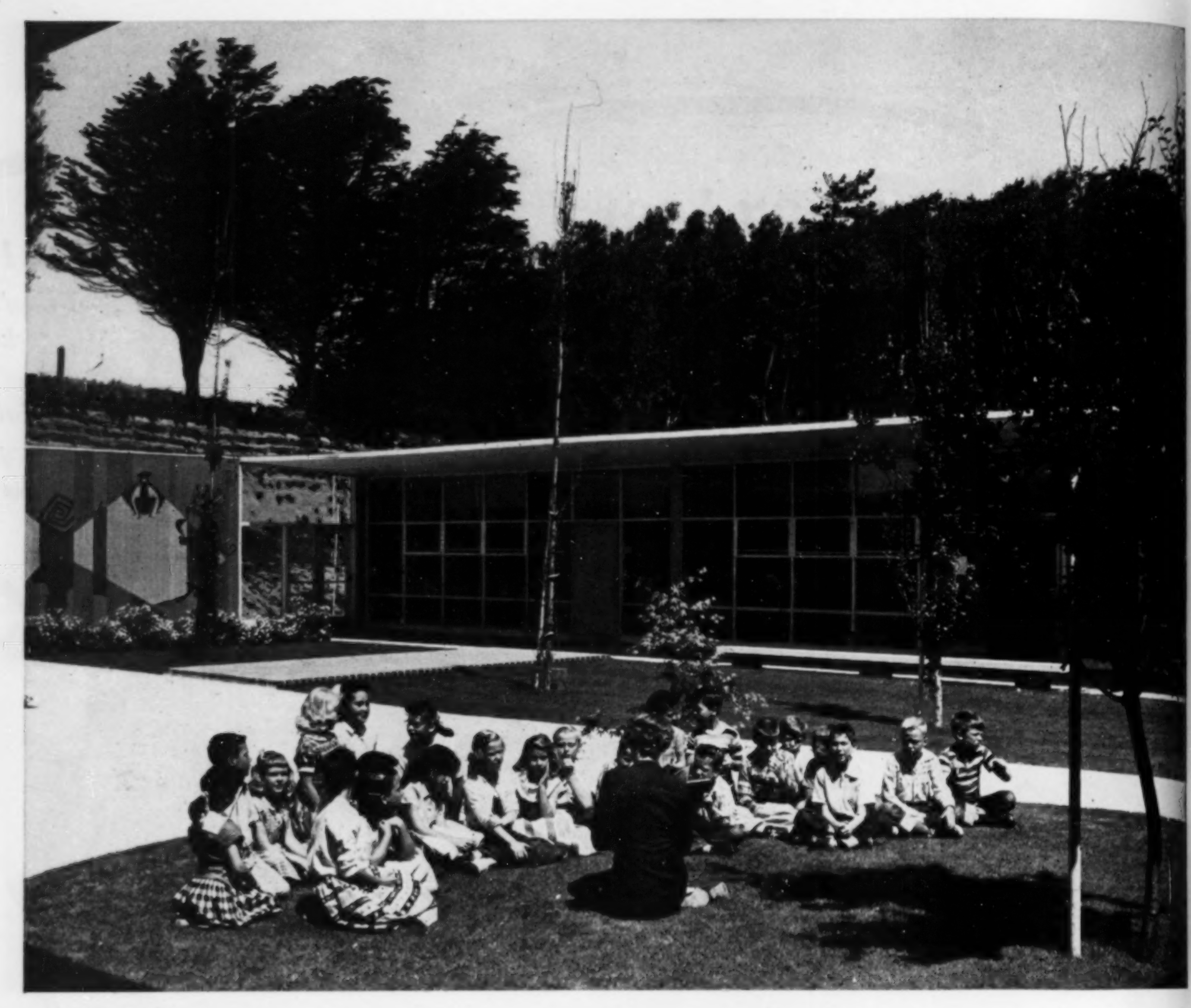
Style "K" for plastered walls. With expansion wings.

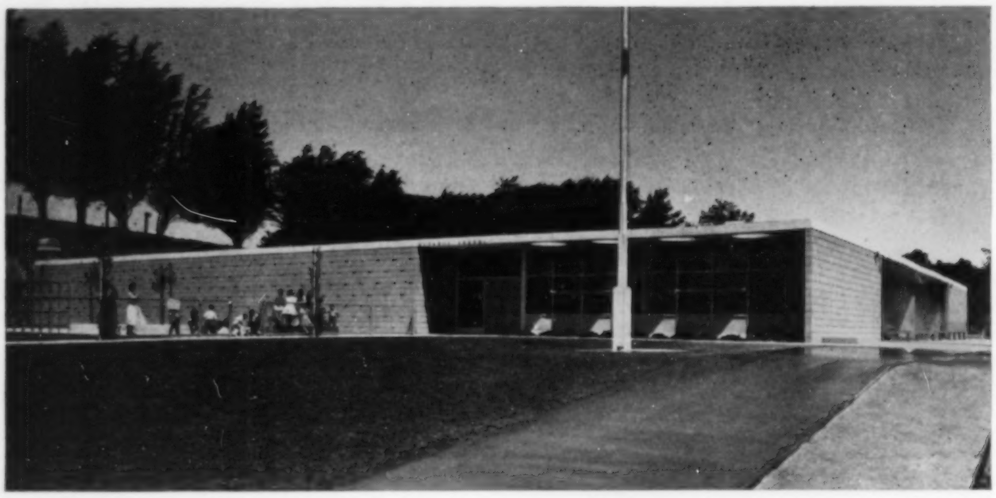
ML-14

Member of the INLAND Steel Family **MILCOR**®

**INLAND STEEL PRODUCTS COMPANY**

Dept. B, 4031 W. Burnham St. • Milwaukee 1, Wisconsin
ATLANTA • BALTIMORE • BUFFALO • CHICAGO • CINCINNATI • CLEVELAND • DALLAS • DENVER • DETROIT
KANSAS CITY • LOS ANGELES • MILWAUKEE • MINNEAPOLIS • NEW ORLEANS • NEW YORK • ST. LOUIS.





*The Olympia Primary School, Daly City, California, presents an outstanding example of modern school architecture. It is equipped with B&G Booster Pumps of various sizes for circulating the heating system and the service hot water system.*

**ARCHITECT:**
Mario J. Ciampi,
San Francisco, Cal.

**CONSULTING ENGINEERS:**
Buonaccorsi & Murray,
San Francisco, Cal.

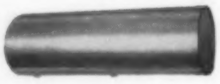
## A COMPLETE LINE OF EQUIPMENT FOR HEATING AND COOLING WITH WATER

Monoflo Fittings

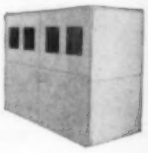
Relief and Reducing Valves

Water Heaters

Flo-Control Valves



Compression Tanks



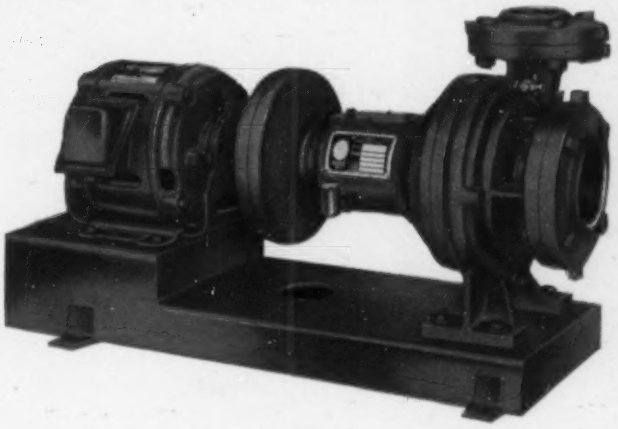
Package Liquid Coolers

# FOR *Noiseless Circulation*
# IN HEATING and COOLING SYSTEMS

The selection of water circulating pumps for modern heating and cooling systems calls for new standards of appraisal...mere ability to meet capacity requirements is not a sufficient qualification.

*Elimination of noise is the all-important factor*...a noisy pump may ruin an otherwise correctly designed and installed system.

In its line of Booster and Universal Pumps, B&G has developed units in which *silent, vibrationless* operation is an outstanding feature. They meet, in every detail, the most exacting demands of good heating and cooling system engineering.



## B&G *HYDRO-FLO* CIRCULATING PUMPS

### B&G Booster Pumps

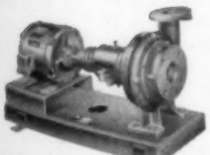
The fact that over 2,000,000 B&G Boosters are in operation today is ample evidence that their quality has never been challenged. These in-line pumps are distinguished by specially designed, *quiet* motors and numerous other exclusive features which assure years of dependable service. They are used in smaller installations and in the secondary pumping circuits of large systems.

### B&G Universal Pumps

For larger installations, the B&G Universal Pump offers many exclusive advantages.

1. **Extra quiet motor.** Specially constructed, tested and hand-picked for extra-quiet operation.
2. **Sleeve bearings.** Both motor and pump are equipped with oil lubricated sleeve bearings—essential to silent operation and long life.
3. **Motor mounting.** Universal motors, through 5 HP, are NEMA mounted and completely suspended in rubber.
4. **Coupler.** Self-aligning, spring-type...another warranty of silent operation, plus protection against stresses of starting torque.
5. **Shaft.** Oversized—affording large bearing surfaces. Made of special alloy polished steel. Heat-treated integral thrust collar absorbs end-thrust...lengthens seal and motor bearing life.
6. **Lubrication.** Genuine oil circulating—no grease to channel or harden.
7. **Vertical split case—removable bearing frame.** Entire bearing frame assembly with impeller is easily removed from volute. No pipe connections to break or motor to remove—all the advantages of split case design.
8. **"Remite" mechanical seal.** Positively prevents water leakage up to full design pressures. The seal is self-lubricating and features a floating seat of diamond-hard "Remite"—a B&G development.
9. **Hydraulically balanced impeller.** Balancing chamber and thrust pressure relief holes in the impeller reduce thrust to a minimum.

For these reasons, you can specify B&G Circulating Pumps with full confidence in their performance.

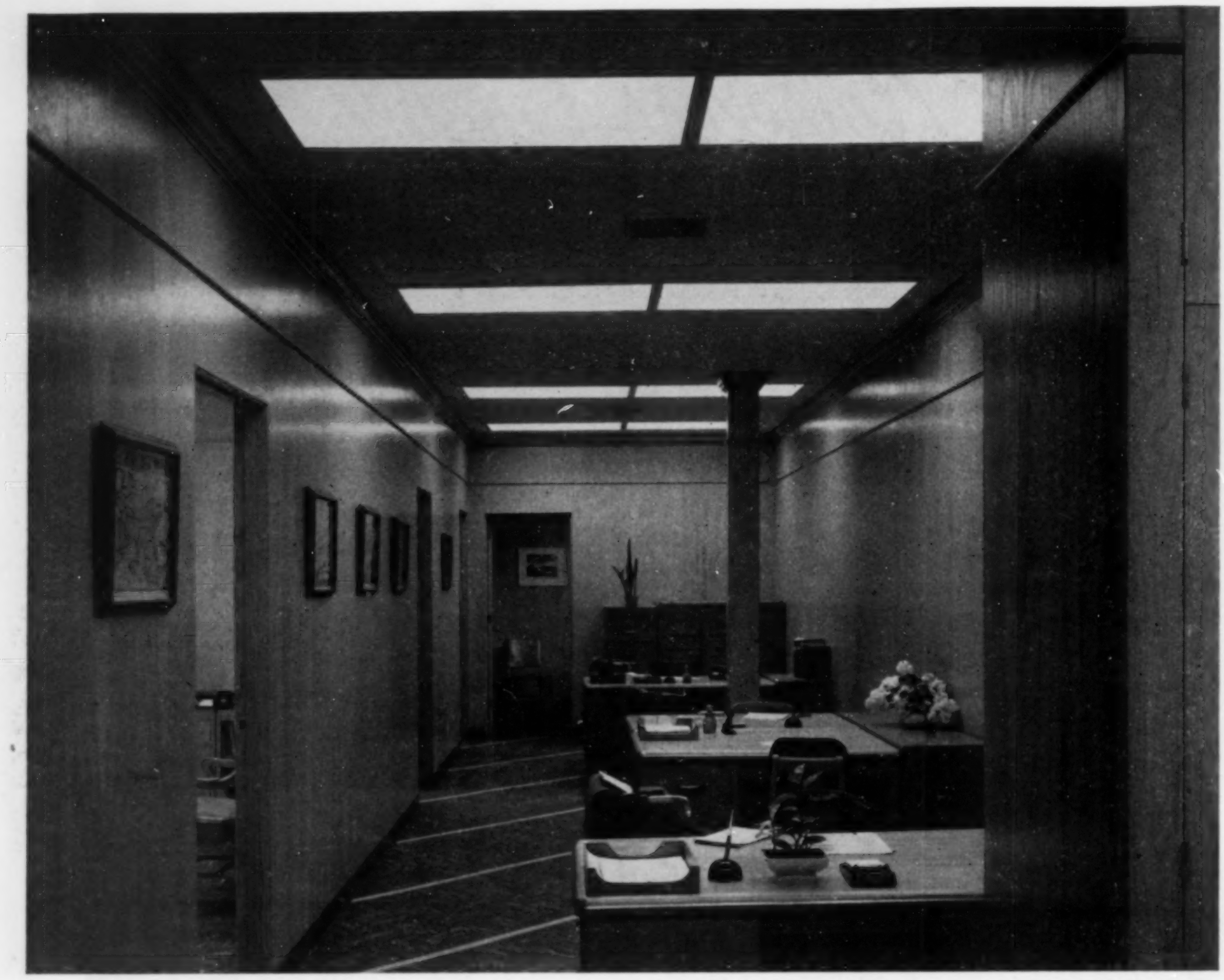


Centrifugal Pumps

Evaporators and Condensers

B&G

**BELL & GOSSETT**
**COMPANY**
**Dept. FD-62. Morton Grove, Illinois**
*Canadian Licensee: S. A. Armstrong Ltd., 1400 O'Connor Drive, Toronto 16, Ontario*



Corning Pattern No. 70 Low Brightness Lens Panels not only provide scientifically controlled illumination, they enhance the appearance of this inside office.

# Demand *more* than just light from your lighting fixtures

You'll have a happy client when you get more than "just good light" from the lighting fixtures . . . when you give him fixtures that form an integral part of the overall design.

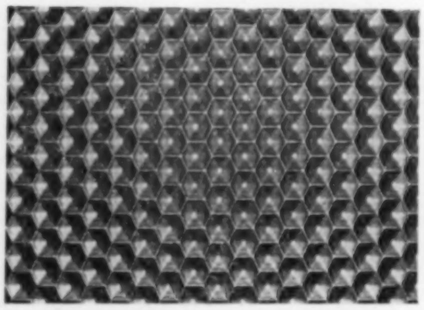
The office above is a typical example. Corning's Pattern No. 70 Low Brightness Lens Panels, flush-mounted in the ceiling, not only provide scientifically controlled light, but as design elements they blend with the ceiling both in shape and texture.

Made of crystal glass, these panels transmit a high intensity light that's free from glare. They do *not* distort color of the transmitted light. They provide a *pleasant* setting for a needed work area.

And with glass panels you can *assure* your clients that they'll *never* have to worry about warping, fading, discoloring. To keep them clean, just wipe with a damp cloth.

Whatever Corning lightingware glass you select, you get *more* than just light. You get a *basic* material formed into a component that *adds* to your design.

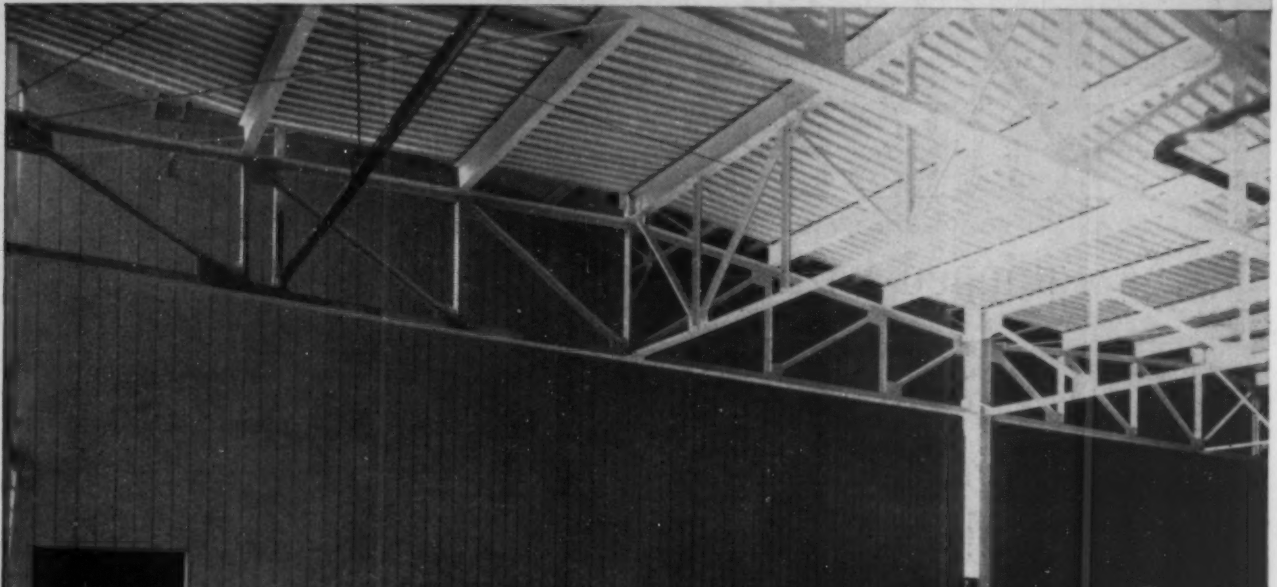
Facts on what glass to use, where, and why, are summed up in "Commercial Lighting Application Guide." Send for your free copy. See how to get *more* than just light from lighting fixtures.

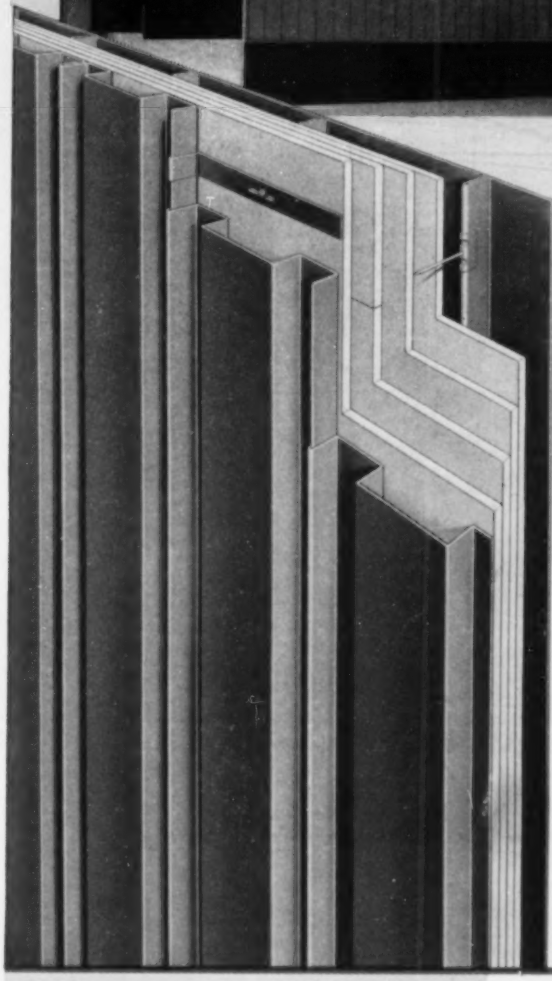


Prisms built into the surface of Pattern No. 70 Panels control brightness in the critical zones, help provide high intensity light without glare. No color distortion of transmitted light, either. You can get pattern No. 70 in panels up to 34 inches wide, 100 inches long. Details in Bulletin L-110-A. Free.

*Corning means research in Glass* **CORNING GLASS WORKS** 64-2 Crystal Street, Corning, N.Y.

# Underwriters' Rated FIRE WALLS





## ...for Interior or Exterior Use!

Mahon Underwriters' Rated Metalclad Fire Walls are now available for use as interior dividing fire walls or as exterior curtain-type fire walls. They can be installed in old or new buildings, of either steel or reinforced concrete construction, where a fire hazard may exist, or where the requirements of Fire Insurance Underwriters or Building Codes must be met. The Mahon Metalclad Fire Wall is field constructed. It has been tested by the Underwriters' Laboratories, Inc., and has been given a Two-Hour Rating for use as either an interior or exterior fire wall. When employed as an exterior wall, Fiberglas insulation can be inserted between the interlocking ribs of the inner wall plates, thus providing insulating properties superior to that of a conventional masonry wall with furred lath and plaster. Exterior Wall Plates may be Aluminum, Stainless Steel or Enamel Coated Cold Rolled Steel. The important feature of the Mahon Fire Wall is the Impaling Clip with its Stainless Steel Spike (Patents Pending) which permits construction of the wall with a minimum of through metal. Mahon engineers will cooperate fully in supplying information and assistance in adapting this product to your particular requirement. See Sweet's 1958 Files for information, or write for Catalogue W-58.

**THE R. C. MAHON COMPANY • Detroit 34, Michigan**

Sales-Engineering Offices in Detroit, New York and Chicago • Representatives in Principal Cities

Manufacturers of Underwriters' Rated Metalclad Fire Walls; Insulated Metal Curtain Walls; Steel Roof Deck and Long Span M-Decks; Acoustical and Troffer Forms; Electrified M-Floors; Rolling Steel Doors, Grilles, and Underwriters' Labeled Rolling Steel Fire Doors and Fire Shutters.

Section of Mahon Metalclad Fire Wall showing Construction Features. Four layers of ½" Plaster Board are sandwiched between Roll-Formed Steel Wall Plates. All Joints in both Wall Plates and Plaster Board are Offset.

# MAHON

# CANADA HOUSE

## is equipped with

# POMEROY

MONUMENTAL TYPE DOUBLE-HUNG

**ALUMINUM WINDOWS**

•

STEEL DOUBLE-HUNG SELF CLOSING

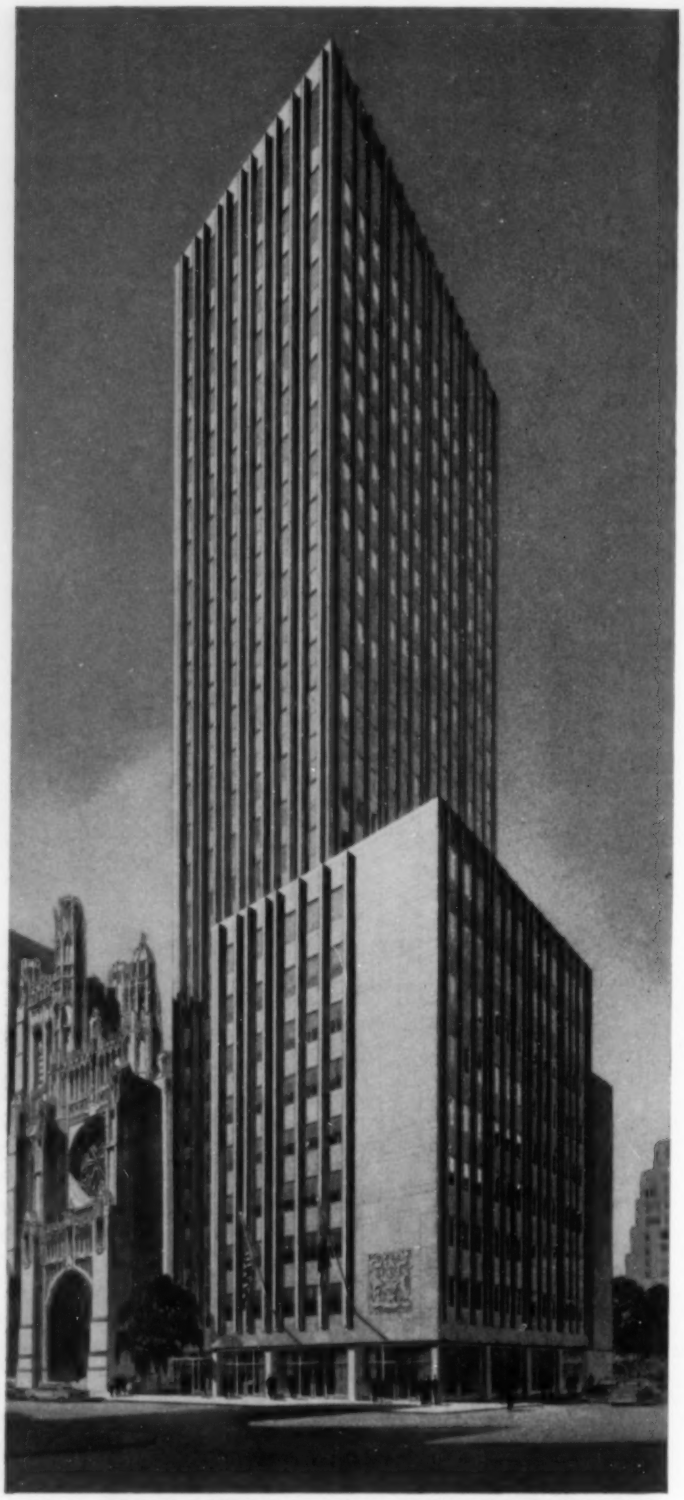
**FIRE WINDOWS**

•

CUSTOM-BUILT AIR-CONDITIONING

**ENCLOSURES**

The present comprehensive line of Pomeroy Products (custom-built Windows fabricated in aluminum, steel and stainless steel; inside window treatment together with air-conditioning Enclosures) have been selected for many current outstanding buildings including CANADA HOUSE. During the planning stage of your next project, commercial or institutional ask for POMEROY to offer their Engineering Services. Specialized designers and engineers are available to assist you for any size project.



Architect: EGGERS & HIGGINS General Contractor: WALSH CONSTRUCTION CO.

SINCE
**POMEROY**
1897

*For complete specifications*
*See the new '58* SWEET'S CATALOG

S. H. POMEROY COMPANY, 25 BRUCKNER BOULEVARD, NEW YORK 54, N. Y.

*manufacturers of*

| DOUBLE-HUNG WINDOWS | 360° REVERSIBLE WINDOWS | FIXED and HINGED WINDOWS | CUSTOM-BUILT ENCLOSURES | CURTAIN WALLS | ACOUSTICAL CEILING SUSPENSION SYSTEMS |
|---|---|---|---|---|---|

**FABRICATION IN ALUMINUM — STAINLESS STEEL and COATED STEEL**

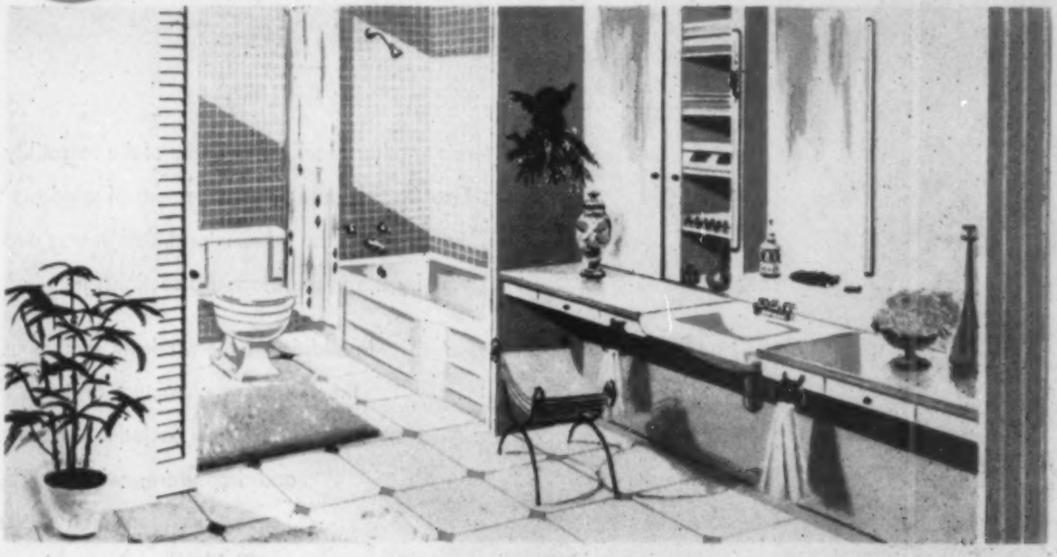
# Announcing a promotion

. . . a promotion designed to focus the attention of prospective home builders and homeowners on the importance of color and design in bathrooms. . .

## *dream of an Eljer bathroom* CONSUMER CONTEST

Get your official entry form by going or writing to the Eljer Plumber displaying this sign

## $50,000 in prizes just for dreaming of an **Eljer** bathroom



PLUMBER LISTING

or write Advertising Department
Eljer Division
Three Gateway Center
Pittsburgh 22, Pennsylvania

## *win* An **Eljer** dream bathroom ...plus an exciting vacation trip

### 100 BIG PRIZES

**FIRST PRIZE**—your dream bathroom with a value up to $4000 built in your home exactly as you designed it. Plus two weeks for two in glamorous Hawaii with all expenses paid.

**SECOND PRIZE**—your dream bathroom with a value up to $3500 and a week in Acapulco with all expenses paid for two.

**THIRD PRIZE**—your dream bathroom with a value up to $3000 and a week for two in Hollywood with all expenses paid.

**SEVEN—FOURTH PRIZES**—dream bathrooms each with a value up to $2000.

**TWENTY—FIFTH PRIZES**—convenient Eljer powder rooms each with a value up to $600.

**TEN—SIXTH PRIZES**—Easy Combomatic Washer/Dryers each valued at over $500.

**SIXTY CASH PRIZES**—ten awards of $100 in cash and fifty of $50 in cash.

PLAN NOW TO BE A WINNER...

Have you ever dreamed about a beautiful new bathroom... designed just the way you want it... with gleaming modern Eljer fixtures... stylish, spacious cabinets... soft-toned colors and subdued lighting? A dream bathroom... one that marks your home with distinctive good taste... a bathroom that reflects your own personality... a gracious Eljer bathroom.

Now this dream can come magically alive. All you have to do is put your dreams down on paper. If your simple sketch and statement are selected as the winner, Eljer will build your bathroom for you... exactly the way you dreamed it.

*How to enter...* Stop in or call any of the nearby Eljer plumbers listed in the column on the left of this ad and obtain an official entry blank. You'll find that it contains full instructions, many helpful suggestions and complete rules. Or, if you prefer, write to Eljer Division of The Murray Corporation of America, Three Gateway Center, Pittsburgh 22, Pa.

ELJER

DIVISION OF THE MURRAY CORPORATION OF AMERICA

This first big national contest ever designed to point directly to the convenience and beauty that can be enjoyed when bathrooms are correctly styled to appeal to today's homemakers has already awakened tremendous interest in the industry. It is another Eljer contribution to stimulate widespread interest in home modernization and properly designed new homes. Eljer Division of The Murray Corporation of America, Three Gateway Center, Pittsburgh, Pennsylvania.

ELJER

DIVISION OF THE MURRAY CORPORATION OF AMERICA

PROJECTED AND REVERSIBLE WINDOWS USED ALTERNATELY IN THIS UNIQUE

# ALUMINUM CURTAIN WALL BY CUPPLES

Here's another excellent example of the versatility of modern skin construction. Despite the unusual arrangement of windows which complicated trim and anchorage, the architectural design was accomplished without deviation by the use of standard sections, thus holding the cost to a minimum.

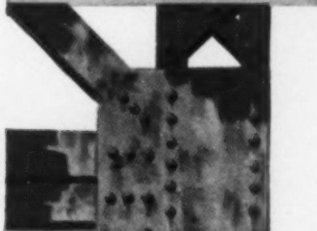
In addition to the windows, aluminum panels and tubular mullions, the following aluminum features are also by Cupples: louver frames which include porcelainized blades; doors, frames and hardware; window cleaner safety devices; band course; condensation gutter; coping; sub-sill. Alumilite finish throughout.

Cupples' dominance in sound, economical curtain wall design, construction and erection keeps pace with its leadership in the fabrication of aluminum windows, doors, ornamental products and Alumi-Coustic grid systems. Our catalogs are filed in Sweets'.

OFFICE BUILDING,
200 E. 42nd St.,
New York City
*Emery Roth & Sons, Architects*
*Diesel Construction Company,*
*Contractor*

**Cupples**
PRODUCTS CORPORATION
2659 South Hanley Road • St. Louis 17, Missouri

## Penetrates through rust like coffee soaks into a sugar cube!



How much do you spend on removing rust before you paint? Why not coat right over the sound rusted metal with Rust-Oleum 769 Damp-Proof Red Primer after simple scraping and wire-brushing to remove rust scale and loose rust . . . saving time, money, and metal! Rust-Oleum's specially-processed fish oil vehicle penetrates* through rust to bare metal—while the surface film remains *tough, firm,* and *durable.* You cut costly surface preparations, you receive nearly 30% greater coverage depending upon the condition and porosity of the surface—and you receive the *maximum* in over-the-years protection!

Whatever your color choice may be — Rust-Oleum finish coatings include the color you want. They're manufactured under the same *exclusive* formulation as the Rust-Oleum Primer . . . they assure you of *greater* compatibility, *double* protection, and *lasting* beauty! The best way to see what Rust-Oleum will do for you is to actually try it yourself . . . around your plant or home.

See our complete catalog in Sweets, or send the coupon for a free Rust-Oleum Test Sample . . . one brushful means *more* than a thousand words. Prompt delivery from Industrial Distributor stocks.

*As proved by Battelle Memorial Institute Technologists in radioactive tracing studies.

# RUST-OLEUM®

RUST-OLEUM
STOPS RUST!

**Distinctive as your own fingerprint. Accept no substitute.**

## STOPS RUST!®

ATTACH TO YOUR LETTERHEAD FOR FREE TEST SAMPLE!

**RUST-OLEUM CORPORATION**
**2572 Oakton Street**
**Evanston, Illinois**

- ☐ Free test sample with complete literature
- ☐ 30-page report on Rust-Oleum penetration
- ☐ Nearest source of supply

# How to specify daylighting with the emphasis on safety

**YOU CAN IDENTIFY** fire-retardant grade polyester-glass panels by the Underwriters' label or Factory Mutual seal of approval. Only panels made with Hetron carry these labels, awarded on the basis of realistic, industry-accepted tests.

These glass-reinforced polyester panels diffuse light softly and efficiently, and won't shatter.

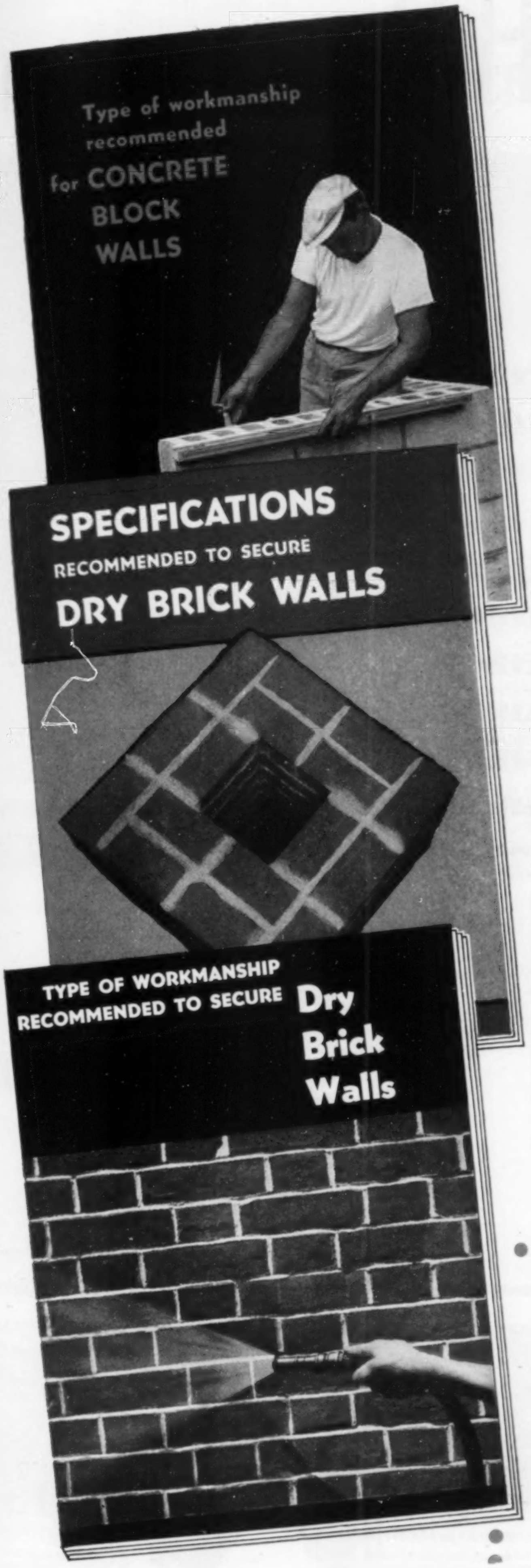
They won't support flame, either. They are made with a special self-snuffing polyester called Hetron®.

When you want extra safety, or when code requires that the flame-spread rating be spelled out, always specify these *fire-retardant grade* panels. Your builder can get them from nearly all leading panel fabricators. (We manufacture the basic polyester material only.)

If you'd like test data showing how fire-retardant Hetron is, write us. We'll also see that you get descriptive literature from the fabricators who make these extra-safe panels.

**DUREZ®** **HOOKER** CHEMICALS PLASTICS

**PLASTICS DIVISION**
HOOKER ELECTROCHEMICAL COMPANY
**1092 Walck Road, North Tonawanda, N. Y.**


Type of workmanship recommended for CONCRETE BLOCK WALLS
SPECIFICATIONS RECOMMENDED TO SECURE DRY BRICK WALLS
TYPE OF WORKMANSHIP RECOMMENDED TO SECURE Dry Brick Walls

# GET THESE IMPORTANT BOOKS!

THE three books at the left are a "must" for anyone who is interested in good masonry construction. One describes the type of *workmanship* recommended to secure dry brick walls. The second describes the *specifications* recommended to secure dry brick walls. The third describes the type of workmanship recommended for *good concrete-block walls.*

Each of these books has been endorsed by foremost authorities. Each has received a citation of merit from the Producers' Council and the American Institute of Architects. Each is fully illustrated, clearly written. Each contains a wealth of really valuable information.

These books are *not* advertisements for our product, Brixment. They are published and made available to members of the building trades solely as an industry service. Mail the coupon, *today,* for your free copies.

**LOUISVILLE CEMENT COMPANY, LOUISVILLE, KY.**
**Manufacturers of**
**BRIXMENT FOR MORTAR**

● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●

Louisville Cement Company—Dept. AF-8
Second and Walnut Streets, Louisville 2, Kentucky

Gentlemen:

Without cost or obligation, please send me a copy of each of your three books on masonry construction.

Name______________________________

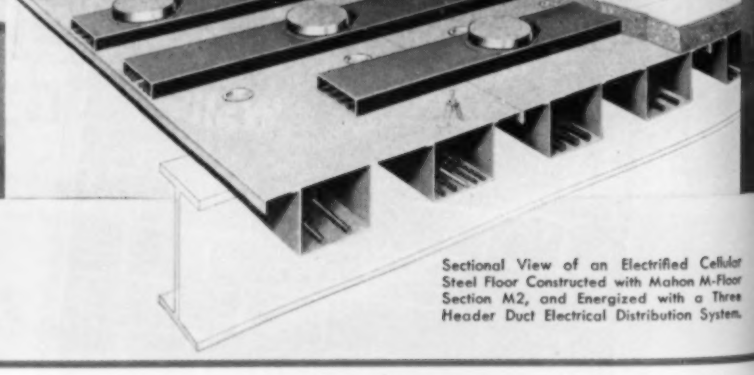
Firm______________________________

Street_____________________________

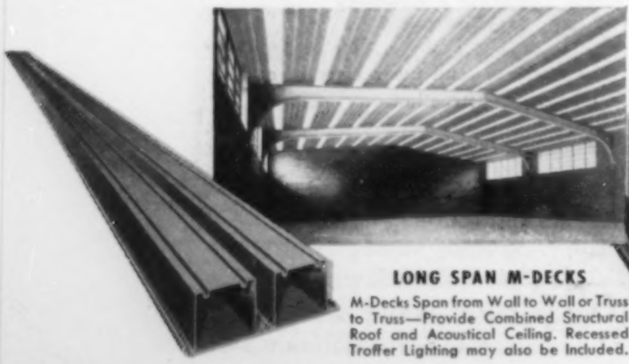
City__________________State__________

# M-FLOORS Assure Adequate

Sedgewick County Court House and Welfare Building, Wichita, Kansas. 196,000 Sq. Ft. of Mahon M-Floors and 15,000 Sq. Ft. of Mahon Steel Roof Deck will provide the Electrified Sub-Floors and the Roof of this modern building. Thoma-Harris-Calvin & Associates, Architects, G. Hartwell & Associates, Structural and Consulting Engineers. Martin K. Eby, General Contractor.

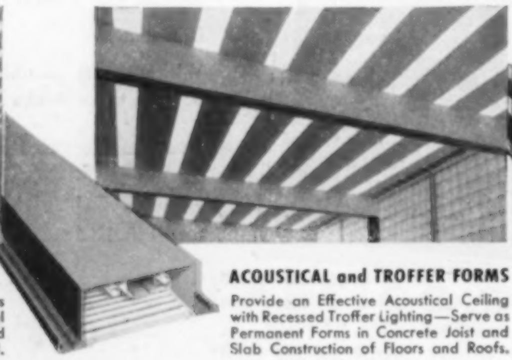


Sectional View of an Electrified Cellular Steel Floor Constructed with Mahon M-Floor Section M2, and Energized with a Three Header Duct Electrical Distribution System.



**LONG SPAN M-DECKS**

M-Decks Span from Wall to Wall or Truss to Truss—Provide Combined Structural Roof and Acoustical Ceiling. Recessed Troffer Lighting may also be Included.



**ACOUSTICAL and TROFFER FORMS**

Provide an Effective Acoustical Ceiling with Recessed Troffer Lighting—Serve as Permanent Forms in Concrete Joist and Slab Construction of Floors and Roofs.

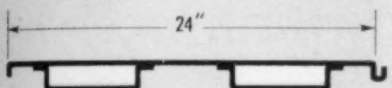
**CONCRETE FLOOR FORMS**

Mahon Permanent Concrete Floor Forms in various types meet virtually any requirement in concrete floor slab construction over structural steel framing.

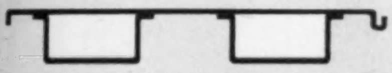
# Built-In Electrical Raceway Capacity in New County Court House and Welfare Building!

## MAHON M-FLOOR SECTIONS

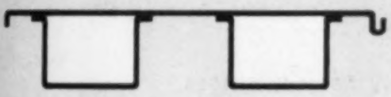
CEL-BEAMS, WHICH ARE UTILIZED AS ELECTRICAL RACEWAYS, ARE 6" WIDE



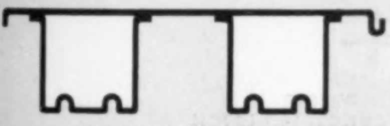
**SECTION M2-1.5**
CEL-BEAM DEPTH 1½"



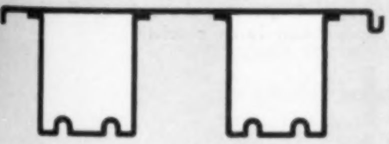
**SECTION M2-3**
CEL-BEAM DEPTH 3"



**SECTION M2-4.5**
CEL-BEAM DEPTH 4½"



**SECTION M2-6**
CEL-BEAM DEPTH 6"



**SECTION M2-7.5**
CEL-BEAM DEPTH 7½"

In the twelve-story County Court House and Welfare Building, illustrated at the left, Mahon M-Floors will provide the light weight structural sub-floors and the built-in electrical raceways so necessary in modern office buildings today. Through his selection of M-Floors for this impressive building, the architect assured himself and the using agencies of all-over electrical availability, year-after-year electrical convenience, and adequate raceway capacity to meet any electrical demands in future years.

The 6" wide Cel-Beam Raceways in M-Floor Construction provide further electrical advantages . . . they allow greater latitude in the location and installation of Floor Service Fittings, and they permit the use of 4" diameter Hand-holes between Electrical Header Duct Access Units and the Cel-Beam Raceways. This is important . . . the larger access hand-holes save time and labor costs, not only in the initial electrical installation, but year after year, whenever changes in electrical circuits are required or additional circuits become necessary.

In the M-Floor Cel-Beam Section you get a better balanced, more efficient structural unit . . . you get electrical availability in every square foot of floor surface . . . you get greater raceway capacity, greater latitude in location of floor service fittings, and greater convenience, electrically, for the life of the building.

When you select an Electrified Cellular Steel Sub-Floor for your next building, you will want all of the structural and electrical advantages that have been engineered into Mahon M-Floors. Comparison will convince you that the basic functional requisites of a Cellular Steel Sub-Floor are more fully realized in the design of Mahon M-Floor Cel-Beam Sections.

*See Sweet's Files for information, or write for Catalogue M-58.*

**THE R. C. MAHON COMPANY • Detroit 34, Michigan**
Sales-Engineering Offices in Detroit, New York and Chicago
*Representatives in all Principal Cities*

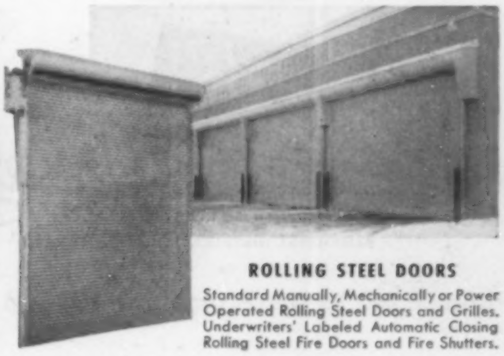
# MAHON

**INSULATED METAL WALLS**

Three Distinctive Patterns with "U" Factor Superior to that of Conventional Masonry Wall with Lath and Plaster. Erected up to 60 Ft. in Height without a Horizontal Joint.

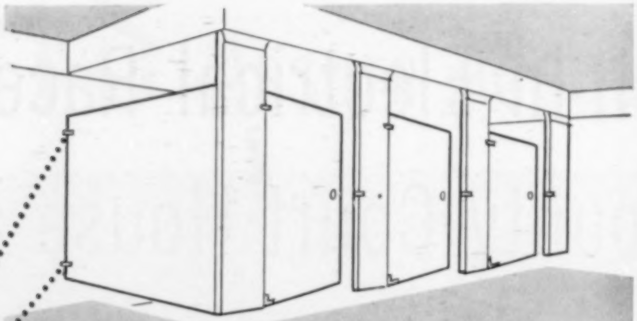
**UNDERWRITERS' RATED FIRE WALLS**

Mahon Metalclad Fire Walls carry two Hour Rating by Underwriters' Laboratories, Inc., for Use as Either an Interior Dividing Fire Wall or an Exterior Curtain-Type Fire Wall.

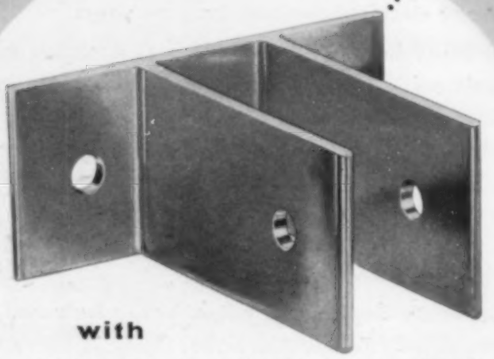


**ROLLING STEEL DOORS**

Standard Manually, Mechanically or Power Operated Rolling Steel Doors and Grilles. Underwriters' Labeled Automatic Closing Rolling Steel Fire Doors and Fire Shutters.



## AGAIN Sanymetal® LEADS...



**with polished aluminum brackets, anodized and forever resistant to corrosion**

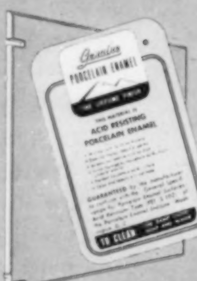
Like all other features of Sanymetal Toilet Compartments, the new polished aluminum anodized brackets are designed to increase the durability, attractiveness, and lasting satisfactoriness of Sanymetal compartments.

Solid, non-rusting metal through and through, these brackets will always be bright and new looking. Made of aircraft-type alloy, they are also extra strong, to resist abuse.

Sanymetal is first with such features because Sanymetal knows that building owners want a product which will look attractive, stay attractive and at the same time reduce maintenance costs to the minimum.

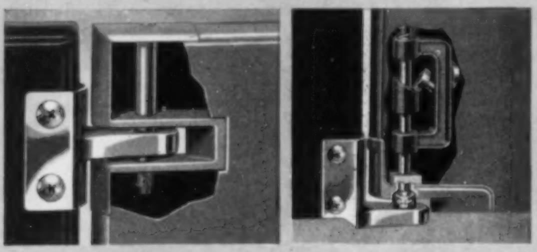
*See Sweets, or write for Catalog 94, which gives all the important details of quality toilet compartment construction.*

## THE SUM OF SANYMETAL FIRSTS...



**PORCENA** . . . Sanymetal was first (in 1936) to introduce vitreous porcelain on steel for toilet compartments, saving building owners countless dollars—no Porcena compartment ever requires refinishing!

+



**CONCEALED TOP AND BOTTOM HINGES**

A postwar Sanymetal engineering achievement, the hinge that not only looks better, but is so strong that a heavy adult swinging on a door cannot damage it. Bearings provided at all moving parts.

+

**NEW 8800 CONCEALED LATCH**

Introduced this year, this tamperproof, better looking latch, tested to 300,000 cycles of operation, makes the old exposed-bolt latch obsolete.

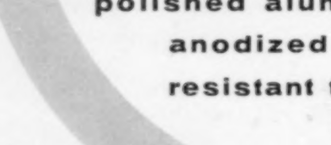
+

—plus trouble-free mountings, quick-leveling permanent set jackscrews, packaged hardware, welded doors and pilasters, galvanized and bonderized finish with Epon primer before finish coat—all Sanymetal firsts that offer money-saving quality.

=

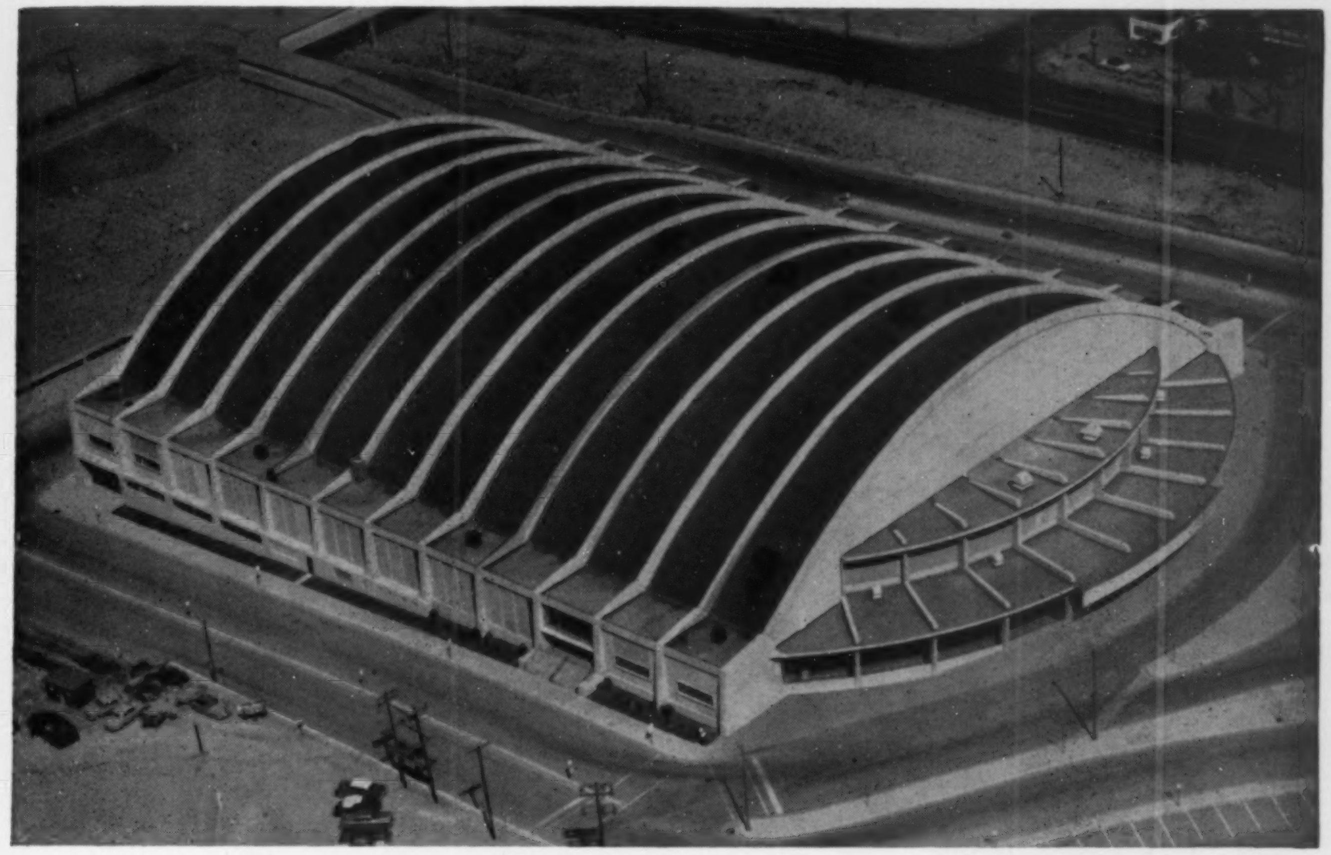
**MORE ECONOMY, LOWER LONG RUN COST FOR THE BUILDING OWNER**

LOOK FOR THIS



NAMEPLATE WHICH IDENTIFIES EVERY SANYMETAL INSTALLATION.

**Sanymetal® PRODUCTS COMPANY, INC.**
1687 Urbana Road, Cleveland 12, Ohio



# Denver's Coliseum...

## Illustrates Versatility of Concrete for Arena Buildings

Denver's Coliseum is a handsome example of the functional use of concrete for arenas requiring uninterrupted enclosed space with minimum maintenance. Its arched construction requires no supporting pillars and provides a clear and unobstructed view of the entire arena area. Only concrete, the completely plastic building material, can be so molded and formed into any shape with all of its strengthening reinforcement inside.

Throughout the long years of its life, this concrete building will be virtually maintenance-free—a joy both to taxpayers and to spectators who attend the public functions held therein.

PORTLAND
IDEAL
CEMENT

*Growing with the Country*

**IDEAL CEMENT COMPANY**

**DENVER, COLORADO**

*15 Plants and 4 Terminals Serving Some of the Most Rapidly Growing Areas of the Nation*

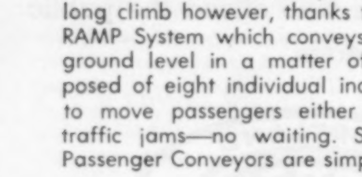
## MOVING SIDEWALKS CARRY SPORTS FANS TO AND FROM UPPER DECK SEATS

# SPEEDWALK®

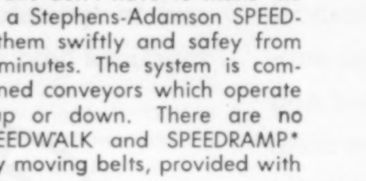
## PASSENGER CONVEYORS

If you had to walk, it would be a long way up to the top deck seats at Chicago's Wrigley Field, home of the Cubs and Bears ball teams. Sports fans don't have to make the long climb however, thanks to a Stephens-Adamson SPEEDRAMP System which conveys them swiftly and safey from ground level in a matter of minutes. The system is composed of eight individual inclined conveyors which operate to move passengers either up or down. There are no traffic jams—no waiting. SPEEDWALK and SPEEDRAMP* Passenger Conveyors are simply moving belts, provided with either stationary or moving handrails. They can be built to carry any number of people—in any lengths, and will operate on horizontal or inclined planes. Operational and maintenance costs are extremely low, and perfect safety records have been established wherever SPEEDWALK moving sidewalks are in use. In every instance where these systems are practical, they are lower in original cost than other types of passenger conveyors. If your planning involves handling people, don't overlook the tremendous potentials of SPEEDWALK and SPEEDRAMP Passenger Conveyors.

***SPEEDWALK** conveyor—operates on a horizontal plane **SPEEDRAMP** conveyor—operates on an inclined plane.



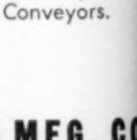
4 lower SPEEDRAMP conveyor belts at Wrigley Field have rated capacity of 10,800 passengers per hour. Upper level system handles 7,200 per hour.



The over-all system is 400 feet long on 8 slope runs. Passengers walk only a few short steps from each ramp to the next. Central controls operate all units.

**STEPHENS-ADAMSON MFG. CO.**
27 RIDGEWAY AVENUE
AURORA • ILLINOIS

Send for this detailed SPEEDWALK and SPEEDRAMP handbook. There is no obligation. Full information is also available thru S-A district offices, located in every large city area.



OVER 56 YEARS OF EXPERIENCE UNDER OUR BELTS

Architectural molding of "Solid", and panelling of "Genuine" mahogany (plywood)

# Can you imagine wood paneling made of anything *but* wood?

*Only genuine hardwoods have warmth, texture, richness, elegance!*

Nothing looks . . . or feels . . . or enhances a room like fine hardwoods. No imitation "wood grained" paper or plastic can match the natural character and deep pattern of genuine hardwood. Fine woods have highlights and shadows. Fine woods in paneling have a personality of their own. And fine woods are amazingly alive to the touch . . . warm in winter, cool in summer; *never* cold or flat-feeling. Nothing man has devised can equal the natural magnificence of wood from a stately hardwood tree.

FINE HARDWOODS ASSOCIATION
All exposed surfaces of this article are *Certified* to be
*Genuine Hardwoods*
OFFICIAL CERTIFICATION

Look for this Seal when you buy wood paneling, fine furniture, high fidelity or television cabinets.—Your protection against imitations.

Send for Free Booklet—"Know Your Hardwoods"—Fine Hardwoods Association—666 Lake Shore Drive, Chicago

New "17 y 0" apartment building in Havana's Vedado.

Completed building seen above, situated among other new apartment and government buildings. (At right) dramatic construction view.

# THERE'S A NEW "H" IN HAVANA

● **A huge "H" beam** extends upward the entire height of Havana's newest luxury apartment building, 312 feet above sidewalk level.

This sturdy diaphragm forms the "backbone" of the slender 32-story structure and is carefully designed to withstand wind stresses due to hurricanes.

The "H" beam is built of reinforced concrete with a compressive strength of 5000 psi. Measuring 55 feet deep, with 60-ft. flanges and a variable thickness of web, it is constructed to resist wind pressures of 120 mph at lower levels to 180 mph on upper floors.

The building, known as "17 y 0"—its street location—towers above historic Malecón Drive in the famous Vedado section. It exemplifies the dramatic beauty of the many new modern buildings designed in concrete along Havana's growing skyline.

A total of 11,000 bbls. of El Morro Cement, produced by La Compañia Cubana de Cemento Portland, Lone Star subsidiary, were used in the project.

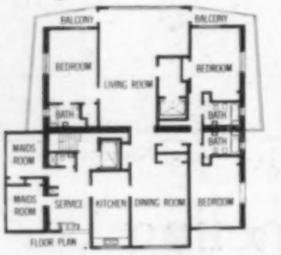
**"17 y 0" COOPERATIVE APARTMENT BUILDING**
Vedado, Havana, Cuba

Owner: **GUILLERMO SOMEILLAN**

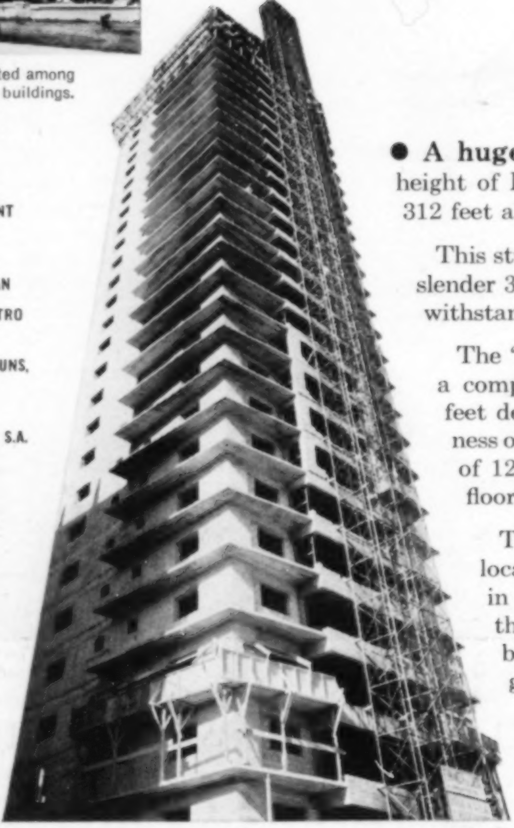
Architect: **FERNANDO R. de CASTRO**

Engineers:
**J. A. VILA, B. DESCHAPELLES, A. MUNS, R. GUTIÉRREZ**

Contractor:
**CONSTRUCTORA METROPOLITANA, S.A.**


BALCONY
BALCONY
BEDROOM
LIVING ROOM
BEDROOM
BATH
BATH
BATH
MAIDS ROOM
MAIDS ROOM
SERVICE
KITCHEN
DINING ROOM
BEDROOM
FLOOR PLAN

Huge reinforced concrete "H" beam forms the backbone of the structure.



LONE STAR
Portland Cement
INCOR
High Early Strength Portland Cement
LONE STAR
Air-Entraining Portland Cement
LONE STAR
Masonry Cement

LONE STAR CEMENTS COVER THE ENTIRE CONSTRUCTION FIELD

# LONE STAR CEMENT CORPORATION

Offices: ABILENE, TEX. • ALBANY, N.Y. • BETHLEHEM, PA.
BIRMINGHAM • BOSTON • CHICAGO • DALLAS • HOUSTON
INDIANAPOLIS • KANSAS CITY, MO. • LAKE CHARLES, LA. • NEW ORLEANS
NEW YORK • NORFOLK • RICHMOND • SEATTLE • WASHINGTON, D.C.

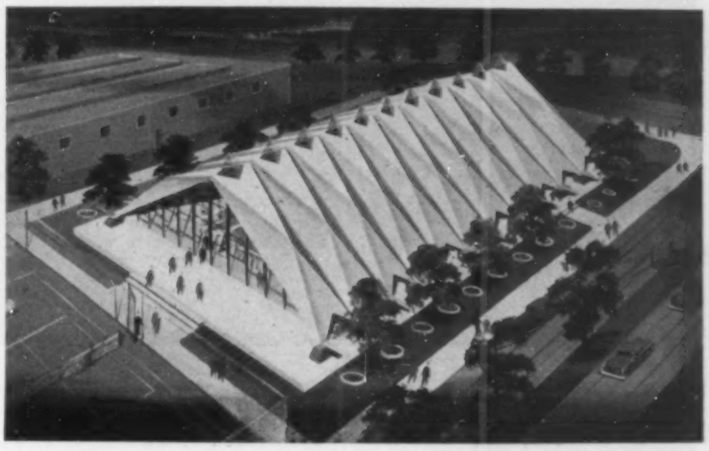
LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS: 21 MODERN MILLS, 48,900,000 BARRELS ANNUAL CAPACITY

# Projects

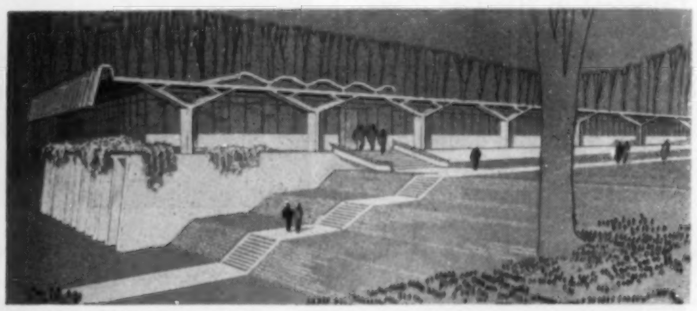
## A roundup of recent and significant proposals

### POOL UNDER A TENT

U.S. Coast Guard trainees will practice aquatic activities under this tent of concrete prismatic panels studded with blue glass skylights. The new training pool, in Alameda, Calif., was designed by Architect Ernest J. Kump of Palo Alto and Engineer Walter L. Dickey of Sun Valley. In addition to a seven-lane, 25-meter pool, there will be 1- and 3-meter diving boards and a 15-foot-high abandon-ship platform.



---



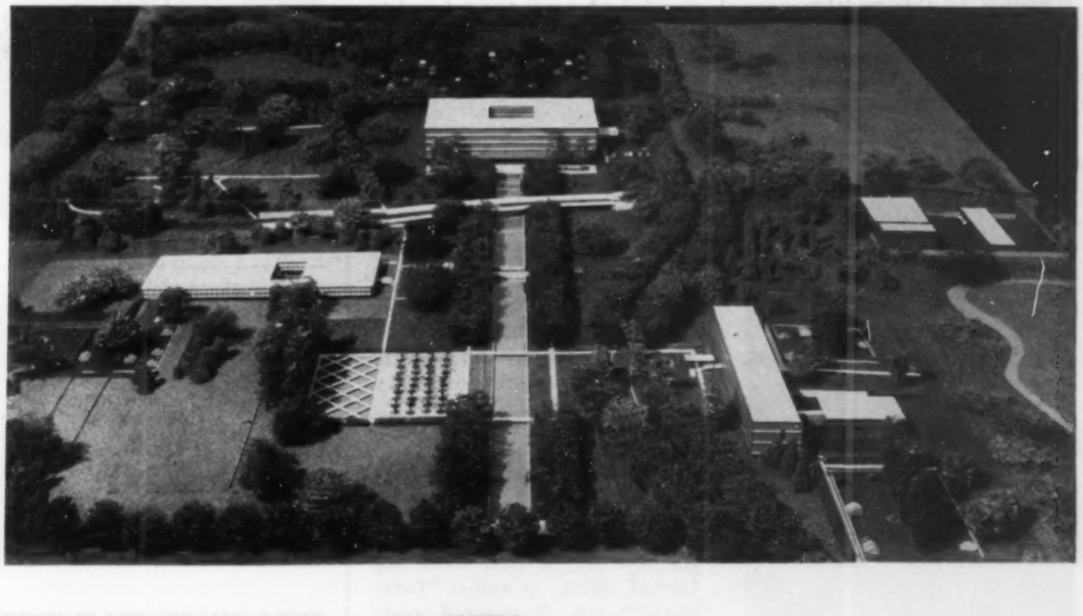
ALBURTUS—YALE NEWS BUREAU

### PAUL RUDOLPH'S DOUBLE DEBUT AT YALE

Following close on the heels of his selection as chairman of Yale's Department of Architecture came the announcement that Paul Rudolph had designed the William B. Greeley Memorial Laboratory for the Forestry School—the first example of his work at Yale. The Greeley Laboratory, of glass and concrete, will provide space for the University's expanding research in wood technology. Research now done in Valhalla, N.Y., will be transferred to the new laboratory, consolidating the Forestry School in New Haven.

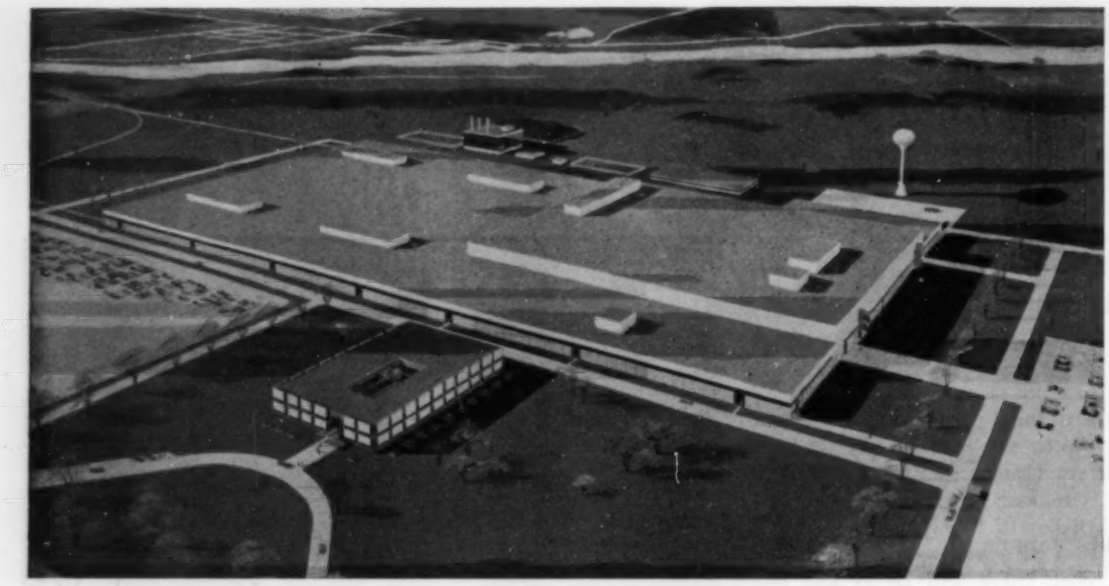
---

LOUIS CHECKMAN



### COUNTRY LIFE FOR UNION CARBIDE RESEARCHERS

Though not really in the deep bush, the 280-acre Westchester County site of Union Carbide's research center appears to be much farther from New York City than it is. Skidmore, Owings & Merrill, also architects of Union Carbide's midtown Manhattan home office (FORUM, Aug. '57), designed the four-story office building, smaller utilities and maintenance building (right), 600-foot reflecting pool, basic-research lab (left), and customer-service laboratory (foreground), all of reinforced concrete with metal-and-glass exteriors.

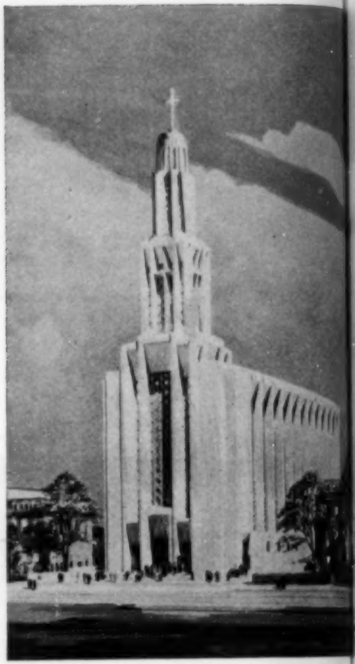


### NEW PLANT FOR PLYMOUTH'S SOUTHWEST PUSH

To a manufacturer in the highly competitive automobile business the fast-growing Southwest and South-Central U.S. markets look good indeed. Chrysler Corp. has recently announced plans to invade the area, using as a base a new 1.3-million-square-foot plant near St. Louis that will assemble Plymouths. Albert Kahn Associated Architects & Engineers of Detroit designed the main plant, which has precast concrete walls hung on a structural steel frame. Fronting the plant is a 65,000-square-foot administration building, designed by the St. Louis firm of Sverdrup & Parcel. Next spring's production goal: 60 Plymouths per hour.

### OLD SITE, NEW CHURCH

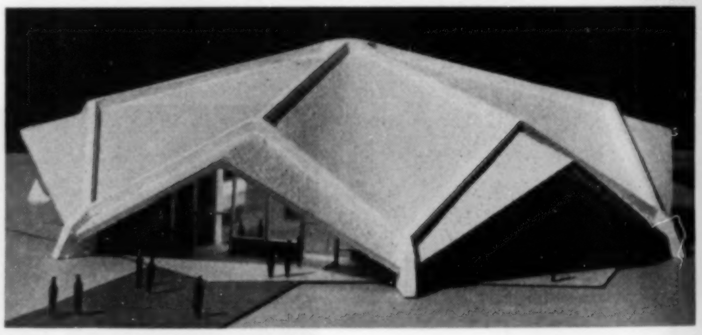
Just a year after St. Joseph's Cathedral in Hartford, Conn. was totally destroyed by fire, church authorities announced that an even larger cathedral would be built on the same site. Eggers & Higgins designed the new cathedral (right), which will cost over $6 million.

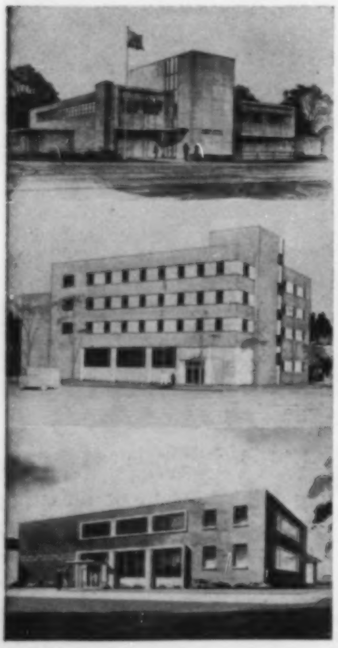


### MULTIPURPOSE HYPERBOLIC PARABOLOID

Next month Architects Bassetti & Morse plan to start construction of this multipurpose (e.g., cafeteria, assembly hall, and exercise room) addition to the high school in Mercer Island, Wash. The new building has a thin-shell hyperbolic-paraboloid concrete roof and is expected to cost $140,000 for 11,000 square feet of enclosed space.

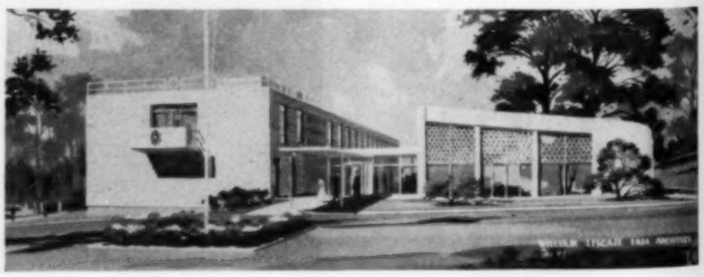
ART HUPY





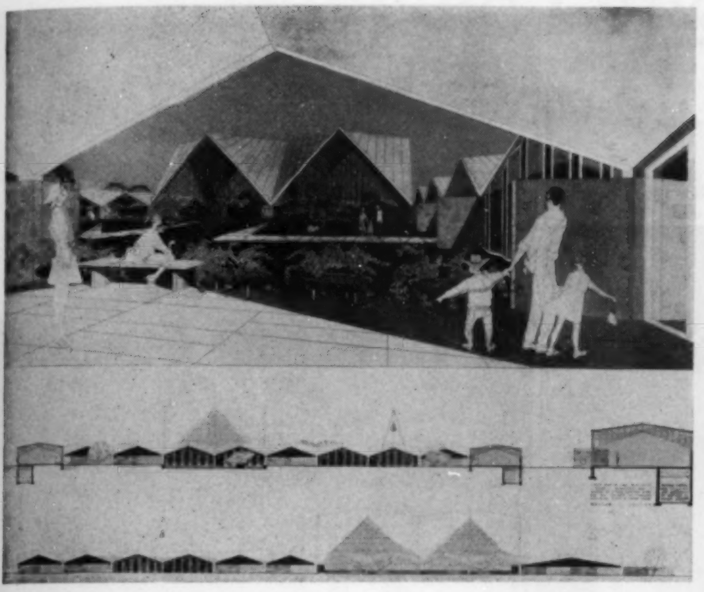
### U. S. AT HOME

Almost made-to-order illustrations for the FORUM Editorial, on page 67, are these three uninspiring new buildings, approved recently by the General Services Administration. They are typical of the unimposing architectural face which the U.S. Government wears in public. All of them, it should be noted, are billed by the GSA as "contemporary" in style, and the top one, a post office for Laurel, Miss., is called "functional," too. Estimated cost: $829,000. The middle building is a post office and courthouse—with a penthouse—in Greenville, Miss. The third, another post office, will be built in Manning, S. C.



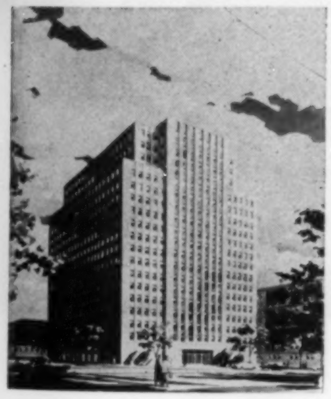
### SWISS CHANCELLERY IN WASHINGTON

When Architect William Lescaze set about designing a chancellery for the Swiss embassy in Washington, he tried to fit his design into its location—a residential section of the city. The building at the left is the two-story chancellery (office building). The separate wing at the right is for receptions and conferences; glass-enclosed lobby, center.



### COWBOY HALL OF FAME FOR OKLAHOMA

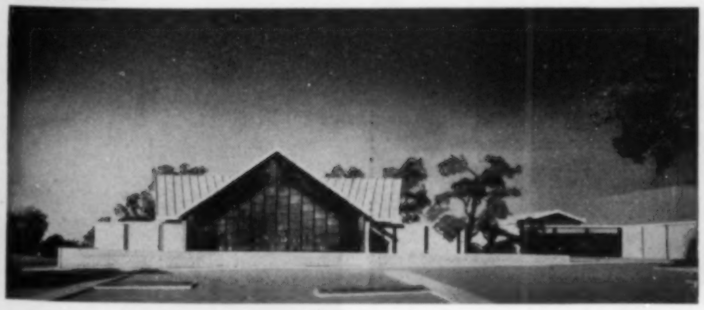
Two young Birmingham, Mich. architects went to Oklahoma, where the corn—and the cowboys—grow as high as an elephant's eye, and there found fame and fortune. Harold Jack Begrow and Jack W. Brown won a nationwide competition to design a Cowboy Hall of Fame. The competition gave them $10,000 plus 6 per cent of the cost of the $5 million project. To commemorate "the life and times of the cowboy," it will be financed by contributions from 17 western states.



### INTERCHURCH CENTER

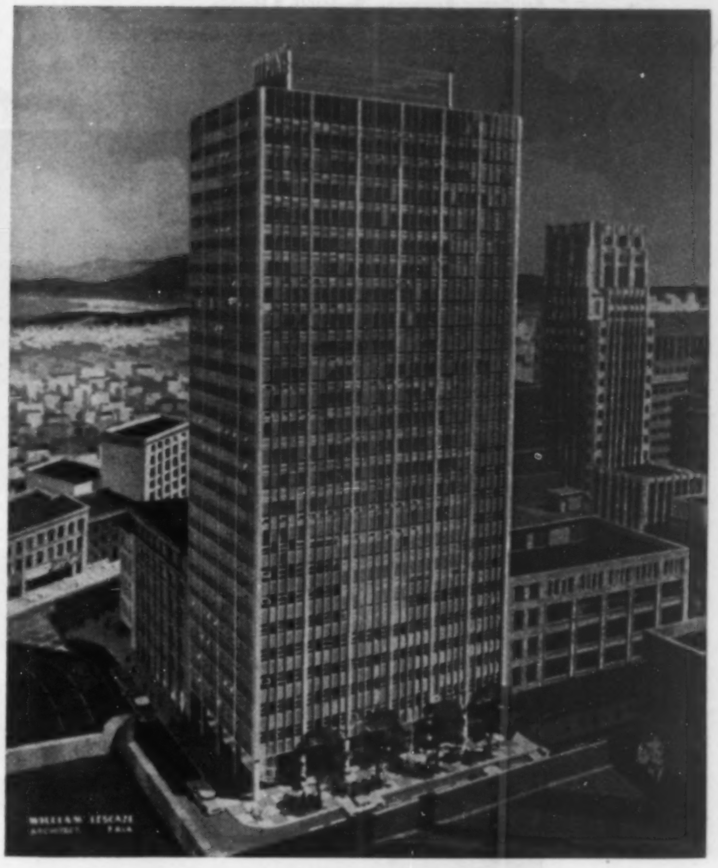
A $20 million Interchurch Center sponsored by Protestant and Eastern Orthodox churches is under way in New York City. The new center was designed by Voorhees, Walker, Smith & Smith and Collens, Willis & Beckonert. A special advisory committee had asked that a striking architectural statement be made, but this conservative approach was chosen instead.

LOUIS CHECKMAN



### SYNAGOGUE ON A GARDEN PLATFORM

To mark the separation between the religious and social portions of Congregation Beth El in South Orange, N. J., Architects Davis, Brody & Wisniewski of New York set the synagogue itself on a garden platform. Between services, worshipers can gather in three open plazas. Sculptured screens, symbolizing seven days of creation, will face the street.

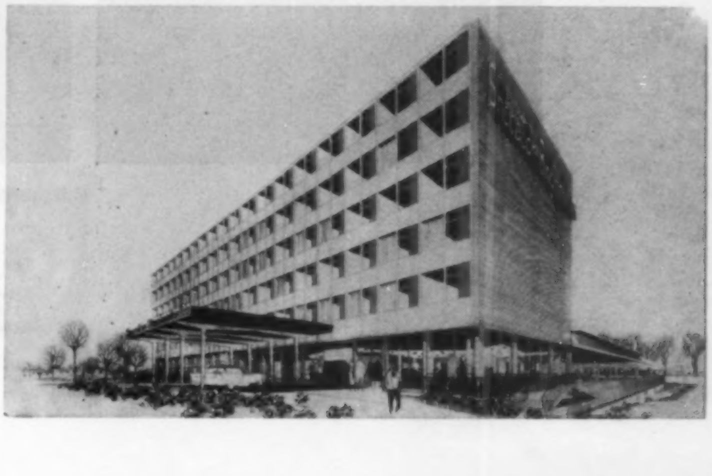


### ANOTHER PEAK IN SAN FRANCISCO'S SKY LINE

On the edge of what San Francisco planners hope will one day be the finest redeveloped area in the city, Benjamin H. Swig plans to erect a new 25-story skyscraper. Architect William Lescaze designed a tower faced with glass, aluminum, and generous portions of blue ceramic tile. The building, which will cost around $10 million, will overlook the produce-market area that has long been marked as part of the city's future Golden Gateway redevelopment.

### SHERATON'S "HIGHWAY-HOTEL" IN BINGHAMTON

Across the Chenango River from downtown Binghamton, N. Y., Sheraton Corp., manager of some 45 hotels throughout the world, plans to build a $4-million, 200-room highway hotel, with a small wing for a TV station. Architects for the new hotel are Samuel Glaser Associates of Boston and Mrs. Mary Morrison Kennedy, a Sheraton vice president.



**Owners:** **Boston Manufacturers Mutual Insurance Company
and Mutual Boiler and Machinery Insurance Company
Waltham, Massachusetts**

**Architects:** **Anderson, Beckwith & Haible.**

**Mechanical Engineer:** **Delbrook Ventilating Co.**

**Mechanical Contractor:** **C. H. Cronin Co., all of Boston, Mass.**

Air view shows central court.

Above: Reception Lobby.

Above: Cafeteria and Lounge.

Right: Court, Penthouse and Lounge.

# Award Winning Office Building also won Thermal Comfort with

# POWERS Quality System of

# AIR CONDITIONING CONTROL

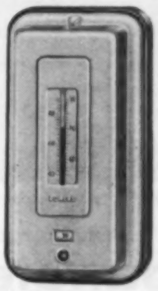
**This Winner of Significant Architectural Awards** is one of the nation's outstanding suburban office buildings. It was a 1957 recipient of the highest building design award of the American Institute of Architects. It also received the Boston Arts Festival Architecture Award and the 1957 Parker Medal for "the most beautiful building in Metropolitan Boston". In addition to "achieving such splendid use of its site and such useful splendor in its central court the building provides an attractive, pleasing environment, comfortable and highly efficient to work in."

**Big Dividends from ideal year 'round comfort** are assured here by Powers accurate control of temperature and humidity. It helps workers accomplish more with fewer costly errors, reduces absenteeism, helps hold good workers and attract desirable new employees.

**Nine multizone air conditioning units** provide heating, ventilating and air conditioning for the office areas. IBM room and cafeteria are served by a special unit. All are Powers controlled including the 250 ton refrigeration compressor which provides chilled water for the air conditioning units. See photo below.

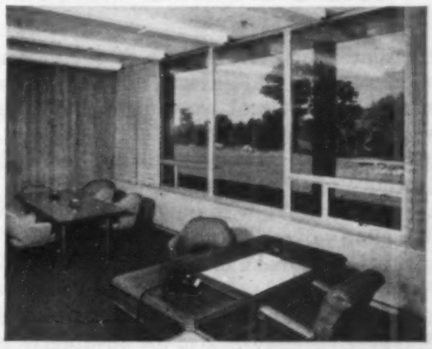
Direct radiation, to offset wall losses during the heating cycle, is divided into 7 zones, each served with compensated hot water. FLOWRITE 3-way valves, controlled by Powers instruments mounted on central panel boards, regulate the temperature of hot water for each zone.

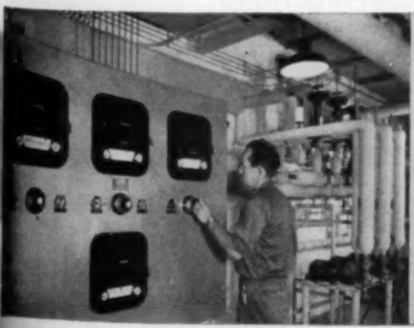
**Are You Planning A New Building** or modernizing an old one? If so, ask your architect or engineer to include a Powers Quality system of temperature and humidity control. They have been time-proven dependable and economical in thousands of prominent buildings since 1891.



*Symbol of Economy and Quality Control*

**Once set, a Powers pneumatic thermostat, holds temperature constant day after day. It needs no frequent checking or readjustment.**

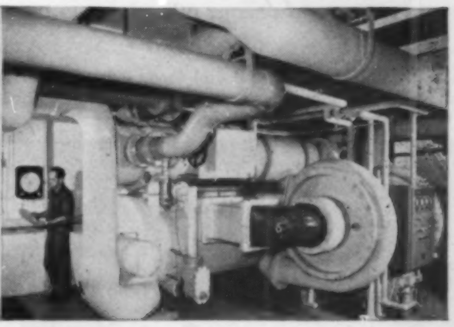




Powers FLOWRITE 3-way Control Valve.

Left: One of two central panels with Powers Series 100 Temperature Indicating Sub-Master Controllers. Pneumatic selector switches provide manual operation when required.

Right: Chilled water supply for air conditioning units is regulated by a Powers Temperature Recording Controller.



*For further information contact our nearest office*

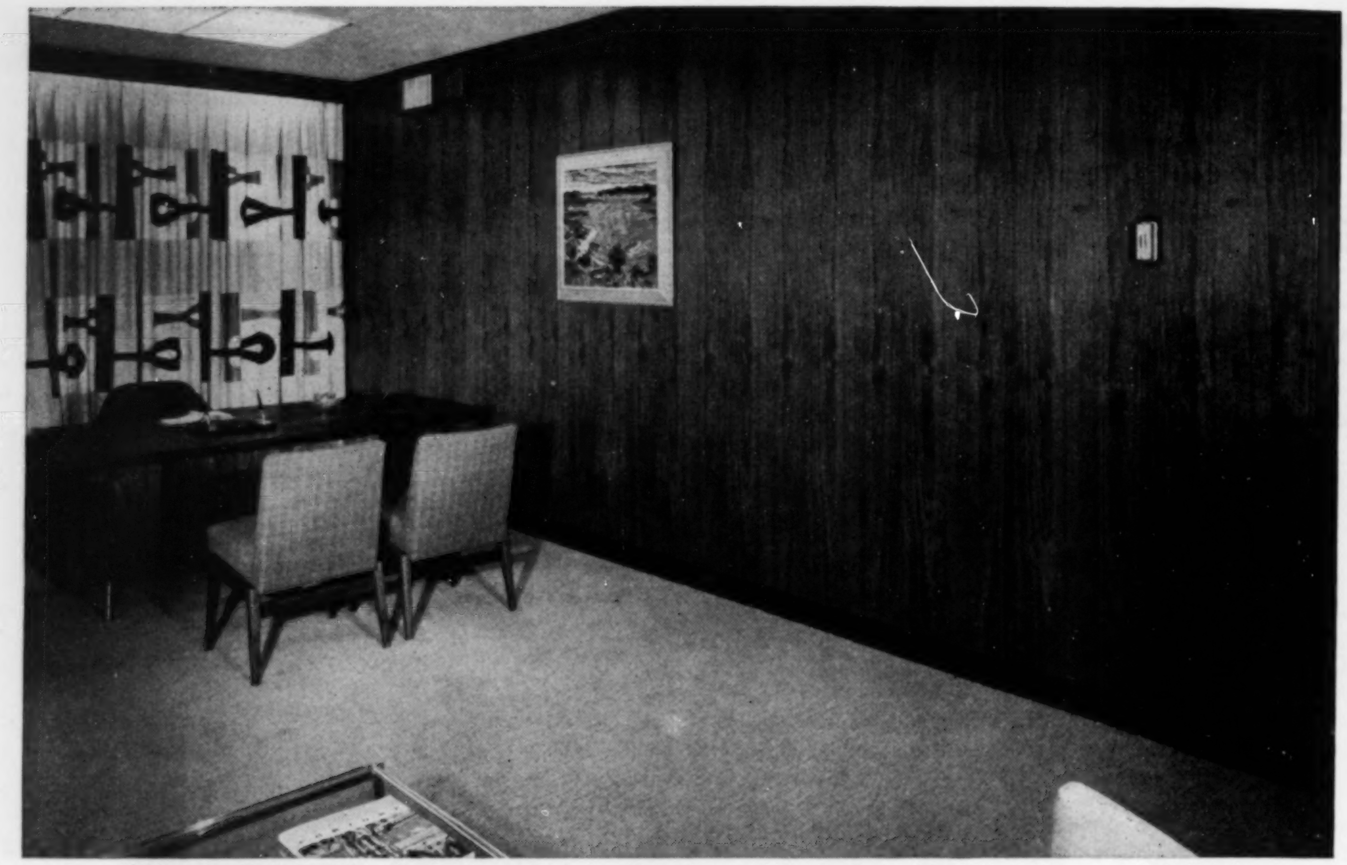
**THE POWERS REGULATOR COMPANY**

**SKOKIE, ILLINOIS** | *Offices in Chief Cities in U.S.A., Canada and Mexico*

**65 YEARS OF AUTOMATIC TEMPERATURE AND HUMIDITY CONTROL**

POWERS CONTROL

(c65)



**Weldwood walnut paneling**—adds distinctive spirit to this office in Investors' Planning Corp., New York. Architects: Joseph & Vladeck

# A wood-paneled office speaks worlds about its owner—and its designer

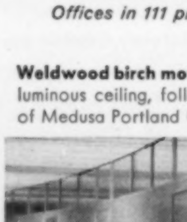
Especially in business, first impressions *do* count. And for a wonderful first impression that will last, nothing does so much for an office as luxurious real wood paneling—guaranteed for life by Weldwood.

Here are three ways Weldwood helps you give offices the warmth and beauty of wood paneling—warmth and beauty that grow through the years, with only an occasional waxing.

**Weldwood Paneling**—over 70 types and finishes of choice woods in big panels that make installation quick and easy.

**Weldwood Flexwood®**—real wood veneers, cloth-backed, that can be hung on any smooth surface—curved or straight.

**Weldwood Movable Partitions**—give the advantages of wood paneling, yet permit you to change office layouts overnight.



**FREE WELDWOOD BOOKLET** with more than 100 photographs . . . "Functional Beauty for Business and Institutional Interiors." Write for your copy. We will be glad to have a Weldwood Architects' Service Representative consult with you—no obligation. United States Plywood Corporation, Dept. AF2-58, 55 W. 44th St., New York 36, N. Y.

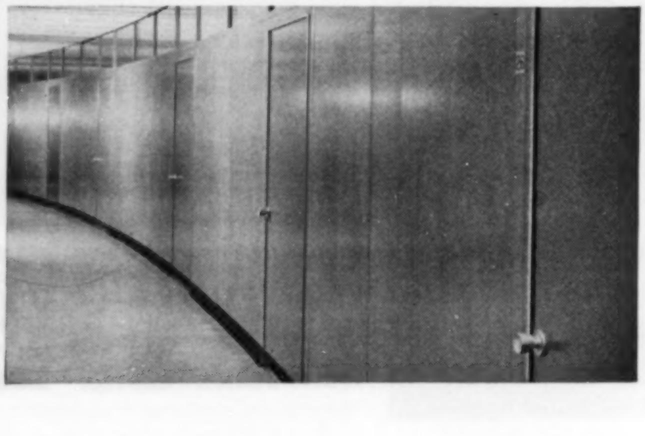
**Weldwood®**

*PANELING • FLEXWOOD • PARTITIONS*

***Offices in 111 principal cities in the United States and Canada***

**Weldwood Nakora® paneling** (Oriental ash) lends a friendly atmosphere to interiors of new Howard Johnson motor lodge at the Breezewood Interchange of the Pennsylvania Turnpike. Architect: Carl Koch & Associates.

**Weldwood birch movable partitions**, installed with ½-inch clearance below luminous ceiling, follow the curve of this corridor in the new home office of Medusa Portland Cement Company, Cleveland, Ohio. Arch.: Ernest Payer.



# Eisenhower budget calls for federal construction outlays to rise 15 per cent

In the first month of 1958 it was hard to separate the economics from the politics of construction. Faced with the problems of a cold-space-war offensive from the Soviet Union on the one hand, and a "minor readjustment" or "baby recession" in the domestic economy on the other, the Administration served up its answer to the economic challenges in the form of actions and proposals that focus heavily on the building industry.

By mid-January, industrial production had dropped 6 per cent from last August, and unemployment was about 4 million, or around 6 per cent of the total civilian labor force, the highest level since early 1950. More vaporous than hard statistics, but more important, too, was the vital question of consumer confidence. A spokesman for the National Association of Home Builders, Economist Nathaniel Rogg, said glumly that "anyone who is relying on housing to bring us out of the recession had better look again. Our sales depend too much on consumer confidence, as well as consumer incomes." Rogg, symbolizing perhaps the rather polished pessimism of home builders who are hoping to shake looser credit terms out of the money managers, sees home building as at best "a stabilizing influence" this year. Most other forecasters look for an upswing from the 989,700 units started last year to somewhere around 1.1 million starts in 1958.

Despite the drop in employment and production—and the home builders' pessimism—the Eisenhower administration is not going to ram through a crash program of civilian public works. This was made clear in the President's budget message which provided no significant increases in civilian public works spending. An Administration economist noted that "there may have been at one time on the back shelf possible public works projects if they were needed—but they are not being contemplated now." This confirms that the administration is following the economic philosophy of one-time head of the Council of Economic Advisers, Arthur F. Burns, who in a recent book, *Prosperity without Inflation,* wrote, " . . . emphasis at the start of a recession should ordinarily be on the easing of credit conditions, later on tax reductions for both individuals and business, still later on the rescheduling of federal expenditure within totals set by long-term considerations, and—only as a last resort—on large public works programs."

This does not mean that Washington is ignoring building in its moves to spark employment and output. Before Christmas, President Eisenhower made it clear that construction was no longer the stepchild it seemed during the tight money days of the past year and a half. He released $177 million that had been appropriated by Congress for housing and construction but which had been frozen by the Budget Bureau. The Federal National Mortgage Association got $107 million of the $177 million for purchasing mortgages on Capehart Act housing for servicemen. (Most of this money has already been spoken for, according to Washington reports.) Another $20 million went to Fannie Mae to buy cooperative housing mortgages, and the Urban Renewal Administration got $50 million for further capital grants—half of the $100 million frozen last year after Congress authorized $350 million in capital grant reservation funds for the year.

The Eisenhower budget for fiscal 1959 asks for over $2.2 billion in new obligational authority for military and civilian public works and an over-all rise in federal construction authorizations to $7.2 billion, 15 per cent higher than fiscal 1958 (page 7). Highway spending, under the federal highway aid program for the 41,000-mile federal road system, will rise to

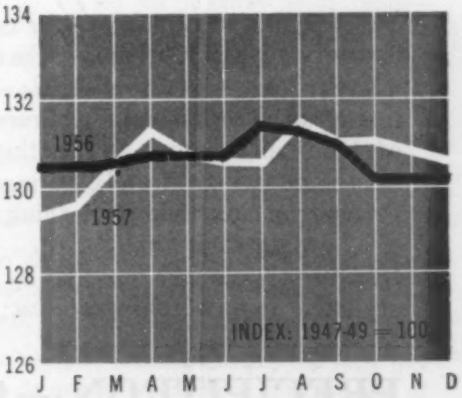
*continued on page 45*

**BOX SCORE OF CONSTRUCTION**

*(Expenditures in millions of dollars)*

| | | Full Year | | |
|---|---|---|---|---|
| | Dec. '57 | 1957 | 1956 | ±% |
| PRIVATE BUILDING | | | | |
| Nonresidential .... | 764 | 9,138 | 8,817 | +4 |
| Industrial ...... | 248 | 3,162 | 3,084 | +3 |
| Commercial .... | 305 | 3,570 | 3,631 | —2 |
| Offices; lofts; warehouses . | 172 | 1,864 | 1,684 | +11 |
| Stores; restaurants; garages | 133 | 1,706 | 1,947 | —12 |
| Religious ....... | 74 | 868 | 768 | +13 |
| Educational .... | 44 | 519 | 536 | —3 |
| Hospital; institutions ....... | 48 | 505 | 328 | +54 |
| Residential (nonfarm) ...... | 1,345 | 16,571 | 17,632 | —6 |
| Public utilities .... | 483 | 5,830 | 5,113 | +14 |
| *PRIVATE TOTAL | 2,705 | 22,313 | 33,242 | † |
| PUBLIC BUILDING | | | | |
| Nonresidential .... | 342 | 4,481 | 4,072 | +10 |
| Industrial ...... | 32 | 458 | 453 | +1 |
| Educational .... | 226 | 2,832 | 2,549 | +11 |
| Hospital; institutions ....... | 24 | 333 | 298 | +12 |
| Residential ....... | 57 | 510 | 292 | +75 |
| Military .......... | 88 | 1,275 | 1,395 | —9 |
| Highways ........ | 275 | 4,840 | 4,470 | +8 |
| Sewer; water ..... | 97 | 1,347 | 1,275 | +6 |
| *PUBLIC TOTAL | 962 | 13,942 | 12,818 | +9 |
| *GRAND TOTAL | 3,667 | 47,255 | 46,060 | +3 |

**Minor components not shown, so total exceeds sum of parts.*
*†Less than 1 per cent.*



**BUILDING MATERIALS PRICES** steadied in December, after three months of slight declines. Bureau of Labor Statistics reported a December index of 130.1 (1947-49=100), compared to a Dec. 1956 mark of 130.5. For the year, lumber and plumbing equipment prices declined the most, while structural steel prices rose 13 per cent.

# don't just FILTER your client's air when you can CLEAN it inexpensively!

## Westinghouse electronic air cleaning can pay for itself in less than a year!

Commercial building management spends an average of 57¢ per square foot annually in routine cleaning and maintenance — even with mechanically filtered air. Do you know that Westinghouse Precipitron® electronic air cleaning can reduce this expenditure up to 50% — pay for itself in less than a year!

**Here are the facts . . .**

The heating, ventilating or air conditioning system in the average city building sucks in over 200,000,000 dirt particles — *mostly invisible* — with every cubic foot of air! Mechanical filters rarely catch over 10% of these contaminants — the other 90% lodge in draperies and rugs, soil walls, ceilings and merchandise. Precipitron electronic air cleaning removes up to 97% of *all* atmospheric dirt!

Here are the savings reported by a nationwide variety chain in an actual store test: total dirt reduced 85%; redecorating costs reduced 80%; washing costs down 90%; labor down 25%; soilage mark-downs reduced 37%. Costs attributed to dirt-laden air dropped from $37,000 to $20,000 annually . . . a profit bonus of $17,000!

Such savings prove how many Precipitron installations actually pay for themselves in less than a year . . . then savings become profits. That's why it's just plain good business sense to install Precipitron in commercial buildings.

What is Precipitron? The electronic air cleaner which electrostatically charges dirt particles, attracts them out of the air and automatically washes them down a drain. Sizes permit replacing mechanical filter installations.

Call your Sturtevant Division Sales Engineer or write Westinghouse Electric Corporation, Dept. B-7, Hyde Park, Boston 36, Massachusetts.

J-80636

**PRECIPITRON — the Westinghouse Electronic Air Cleaner**

YOU CAN BE SURE...IF IT'S Westinghouse

$2.3 billion in fiscal 1959 compared to $1.7 billion in fiscal 1958. Military construction spending will go up to at least $2.1 billion, a gain of $140 million, and maybe more as more funds are diverted to building missile bases and other defense installations. One government economist estimates military building expenditures will rise by at least $200 million, mainly because of dispersal plans for the Strategic Air Command. In his budget message the President said that "fully half of the 1959 program of military construction" will be accounted for by SAC and new weapons installations.

Although no action was proposed for fiscal 1959 on a school construction program, and construction cutbacks were budgeted for the Corps of Engineers, Department of Health, Education and Welfare, and Bureau of Reclamation, the Administration's proposals add up to a further over-all growth in federal construction expenditures. And Congress may still reinstate cuts asked in pet reclamation and Engineers' projects—traditionally the choicest servings from the pork barrel.

### PUBLIC BUILDING

## Federal highway system will cost $10 billion more than anticipated, says Commerce Secretary Weeks

The federal highway program was plagued last month by higher costs, and indications that the Administration plans to use the highway trust fund, from which federal highway aid is paid, for spending not directly related to building the 41,000-mile federal road system scheduled for completion by 1972.

First, Commerce Secretary Sinclair Weeks declared that, due to higher prices and the need for more interchanges and grade separations on local roads than originally planned, the cost of the proposed federal highway network was now being estimated at $37 billion—a whopping $10 billion increase over the original estimates made only a year and a half ago.

Weeks said that another reason for rising costs is that new estimates indicate auto traffic will be 15 per cent higher by 1975 than initially forecast, and this will mean an additional 5 per cent increase in spending for wider highways.

However, Weeks maintained that there was no need yet to call for increased expenditures beyond those already authorized by Congress. In fiscal 1959, spending for the highway net will total $2.3 billion and the funds already requested would be sufficient to attain that level of spending.

The new estimates of total cost would put the federal share at $34 billion for the whole program. The formula calls for 90 per cent of the cost of the roads to be borne by federal funds, and 10 per cent by the states. Weeks said the road program as a whole was proceeding "on schedule" although Federal Highway Administrator Bertram D. Tallamy said eight states are still behind schedule.

Weeks criticized the practice of states and localities reimbursing public utilities for costs of relocating facilities displaced by the highway program. "If federal aid funds continue to be available to reimburse the states for the cost of relocating utility facilities, federal spending for that purpose will increase substantially and less will be available for the construction of highways."

Less will also be available for highways, at least those that are part of the federal system, if the Administration's budget proposals for using highway trust funds go through. In his budget message, President Eisenhower made three proposals that would siphon off highway trust funds—which result largely from federal taxes on gasoline and tires—from the federal interstate highway system. For fiscal 1959 he proposed:

- to use $32 million from the $2.6 billion fund for building roads in public forests and reservations.
- to channel $32 million of aviation gasoline tax revenues, now part of the highway fund, into the general treasury.
- to use $3.7 million to have the fund pay for its own administration plus the cost of the Labor Dept.'s efforts in determining wages on road construction.

Senator Albert Gore (D, Tenn.) has already accused the Administration of turning the highway trust fund into a "grab bag." As chairman of the Senate subcommittee on roads, Gore plans to hold hear-

*continued on page 46*

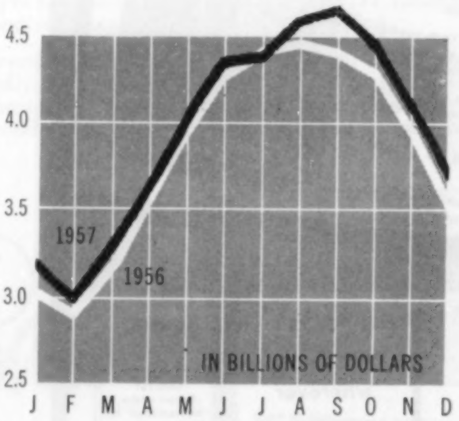
### BUILDING ACTIVITY

## Building in 1957: Record volume, but slower growth

There were few surprises in the December figures for spending on new construction, but the data gave economists the final piece of information with which to analyze the biggest building year in history. December building volume totaled $3.7 billion, 3 per cent better than December 1956. And this addition to the 11-month totals made 1957, with $47.2 billion worth of new construction, a 3 per cent bigger year than 1956.

There are already two obvious facts about the kind of building year 1957 was:

- The gain over 1956 was caused entirely by price increases. While construction outlays rose 3 per cent, building costs rose just about as much. Thus physical volume actually declined slightly from 1956. This means that the annual growth of new construction outlays, which averaged around 7 per cent a year in the early 1950's, has temporarily ceased. Last year's decline in physical volume coupled with a 2.2 per cent drop in physical volume in 1956 indicates that, in physical terms at least, construction has ceased, for the moment, to be a growth factor in the general economy.
- What construction gains there were in 1957 came principally in the public sector, which accounted for 94 per cent of the total dollar gain in 1957 spending. Highways and school expenditures alone made up 55 per cent of the total gain. Even with prices rising, the private sector of building just held its own last year, which indicates a further decline in physical volume from 1956. Residential building was off 6 per cent (in current dollars), largely due to the 10 per cent drop in spending for new nonfarm housing starts. A $717 million rise in spending by public utilities offset much of the decline in housing and in construction outlays for commercial building and private educational facilities.



**TOTAL SPENDING** for new construction hit a new record of $47.2 billion in 1957. But the 3 per cent dollar rise in spending above 1956 was the smallest percentage gain in the postwar period. Physical volume actually declined.

HOW TO SOLVE THE 3 BIG PROBLEMS of Heating System Design

KEEP COSTS DOWN
The cost of Reznor unit heaters is comparable to or lower than that of other types of equipment of equal heating capacity. And with Reznor, this is the total cost. You don't have to add the costs of extensive piping and valves or duct work, and of radiators or registers. Reznor gas unit heaters produce and distribute heat at the point of need. To install them involves only suspension, venting and utility connections. So installation costs are much lower than those of central heating systems. Lower equipment cost . . . lower installation cost . . . two reasons why Reznor gas unit heaters can offer substantial savings on heating systems for so many commercial and industrial buildings.

SAVE SPACE
Reznor gas unit heaters are installed up at the ceiling, completely out of the way. When you design for a store or factory, you don't have to allot a single square foot of valuable space for heating equipment . . . and you don't have to keep floor or wall areas clear for radiators or registers.

INSURE FLEXIBILITY
When you specify Reznor gas unit heaters you don't have to choose between a heating plant which is over-sized and over-priced for current requirements and one which may not be adequate for future needs. With Reznor unit heating, when that new wing is added, additional heaters are installed. It's as simple as that. And in the case of internal remodeling, it's very easy and inexpensive to relocate the existing heaters.

ONLY REZNOR GAS UNIT HEATERS OFFER ALL THESE ADVANTAGES
- Clean, modern design, back as well as front . . . all controls and connections inside the cabinet.
- FlexiTemp control system with automatic two-speed fan control to provide nearly continuous air circulation and minimize temperature fluctuations (optional).
- No costly frills and gadgets . . . features which are needed only to meet special situations always separately listed and priced.
- Fan or blower models in ten sizes from 25 to 300 thousand BTU.

There is no "equivalent" for Reznor gas unit heaters.

REZNOR
WORLD'S LARGEST-SELLING DIRECT-FIRED
UNIT HEATERS
Reznor Manufacturing Company
40 Union St., Mercer, Pennsylvania

for complete details, wherever you are . . .
Look for Reznor under "Heaters-Unit" in the Yellow Pages

ings this month on the budget proposals. The big question that remains to be answered, if not in fiscal 1959, then sometime shortly thereafter, is how the federal government will pay its share of this vastly costlier program when there are already indications that the highway trust fund will fall $10 billion short of providing adequate cash—even at today's prices.

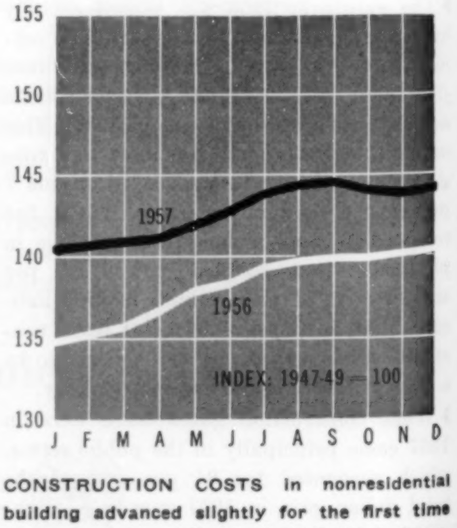
MONEY

## One-third of states expect budget deficits in 1958

In a year that seems already clouded with crises of varying magnitudes, a new storm has billowed up, this time on the horizon of state finances. Late last year, there were some isolated rumblings that state revenues in a few instances might not measure up to early estimates. Early in January and continuing throughout the month the rumblings became full-throated cries. A recent survey shows that revenues from existing state taxes will fall short of budgeted outlays in at least one-third of the states in the nation, leaving some with painful deficits which could be reflected in a slowdown in public works and other state building programs.

New York was among the first to point to lagging revenues. Governor Harriman reported that state income in fiscal 1958 would be some $20 million below earlier estimates. (Harriman wasted no time in blaming federal "tight money" policies and other Administration measures for the state's fix.) In New York, unemployment is running ahead of joblessness in any other

*continued on page 48*



CONSTRUCTION COSTS in nonresidential building advanced slightly for the first time in three months. The E. H. Boeckh & Assoc. index was 144.1 in December, below the Sept. high, but four points above Dec. 1956.

Copyflex '300'
REPRODUCTION
MACHINE

# Designed with Architects in mind!

Here, at last, is the diazotype whiteprinter especially designed for architects.

The compact, low-cost Bruning Copyflex Model 300 offers all the versatility and big printing width of a large, expensive reproduction machine. It brings the advantages of "inside" reproduction within the means of the smallest architectural firm.

Now, right in your own offices, you can make sharp, black-on-white prints in seconds of a drawing or tracing up to *30-inches wide* by any length. And anyone can operate the Model 300. One control turns the machine on or off and regulates its speed. Exposure and development are automatically synchronized. Ideal for architectural offices, the Model 300 is clean, quiet, and odorless. It requires only a 115-volt AC connection.

Just think, with low-cost versatile Model 300, you can make high quality prints when you need them — rapidly, privately and in any quantity. Letter-size prints cost less than a penny each for materials. You owe it to yourself and your firm to investigate this remarkable reproduction machine by mailing the coupon below.

**BRUNING**
*Copyflex*

**Charles Bruning Company, Inc., Dept. 23-AF**
**1800 Central Road, Mount Prospect, Ill.**
Offices in Principal U. S. Cities
*In Canada: 105 Church St., Toronto 1, Ont.*

Please send me my free booklet on the all-new Copyflex Model 300.

Name__________ Title__________

Company__________

Address__________

City__________ Zone_____ State__________

a TEAM that can't be beat!
MASTER CONTROL
Stromberg

**Stromberg's new Electronic Time System performs beyond compare...**

*Here are some (just a few) of the many PLUS features not offered by others*

- Jewelled Master Clock movement with automatically wound 72-hour spring power reserve.
- Secondary Clocks standard with hourly and 12-hour supervision — correction cycles completed in *only 60 seconds.*
- Program Unit, capable of 1440 signals daily on each circuit, immediately resets following power interruption.
- Manual signals sound instantly on depressing program key.
- Seven-channel transmitter — one for clock supervision, six for program signals.
- Installation and maintenance service available throughout U.S.A. and Canada.

A product of the laboratories of one of the largest clock manufacturers in the world—*YOUR GUARANTEE of performance, quality and dependability.*

For complete details, write:

**Stromberg** TIME CORPORATION
Thomaston, Connecticut

GT GENERAL TIME
SUBSIDIARY OF GENERAL TIME CORPORATION

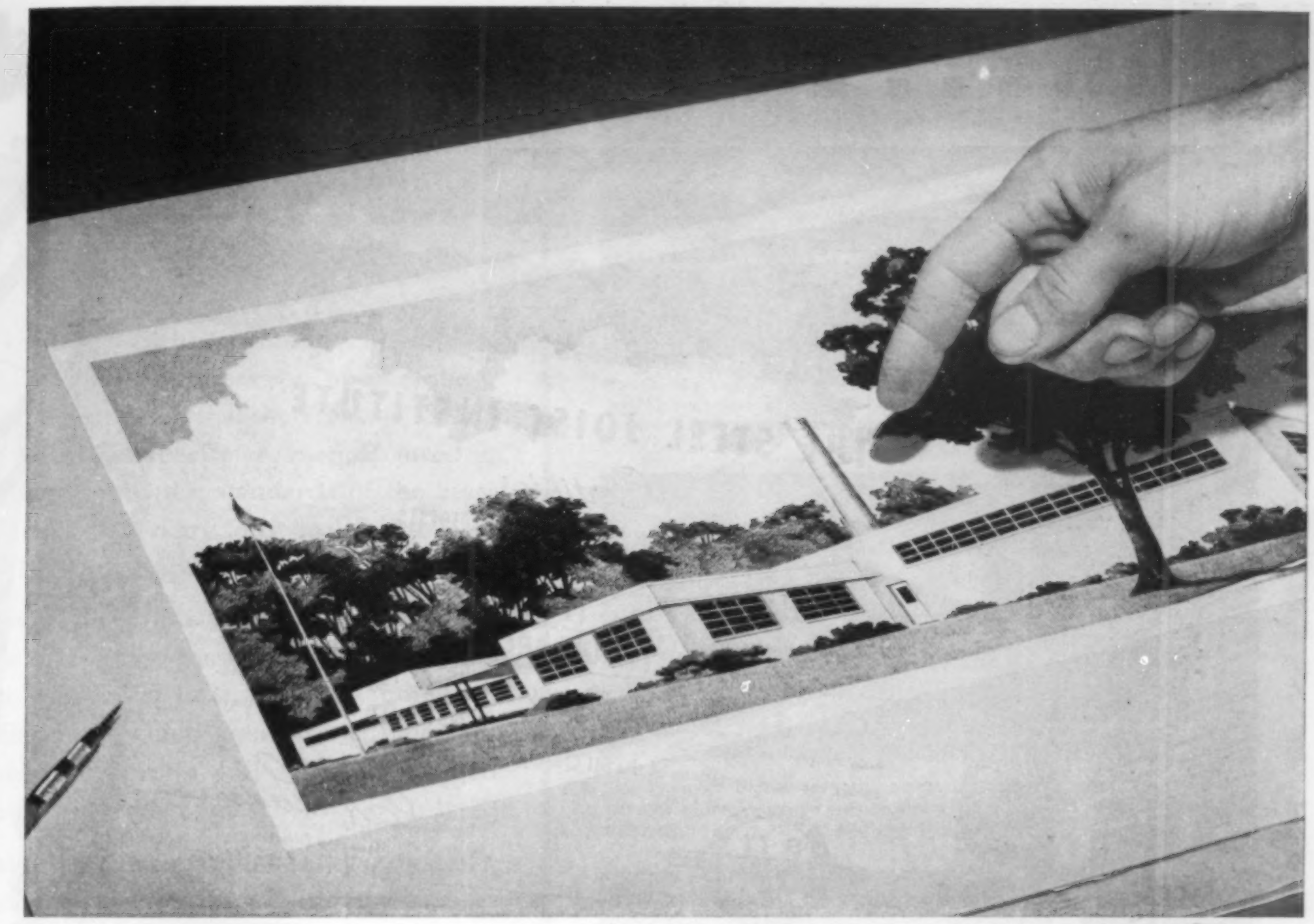
state. With 420,000 idle in mid-January the state, besides suffering loss of revenues, is faced with heavier than normal welfare payments stemming from the unemployment problem.

Aggravating the New York State situation was the recent demand by the State Conference of Mayors, representing mayors from most of the state's cities and villages, for increased state aid. The conference made its call for more funds because of a population rise that "has not produced the increase in revenue to the municipalities in proportion to the increase in the yield of the share of taxes." The mayors asked for more state aid for sewage-plant construction, increased subsidies for highway-site acquisitions, and greater reimbursements for property taken off local tax rolls for state building.

New York is just one of 16 states that expected revenues to fall behind budgetary estimates, according to a mid-January survey of the New York *Times.* (Another 18 states, however, estimated that their revenues would actually be higher than expected. Most of these states are less populous and less industrialized than those with threatened deficits.) Three states, Michigan, Delaware, and Florida, called their present fiscal situation a "crisis."

There was no firm geographic pattern to the survey results—states adjacent to each other often reported directly opposite fiscal outlooks. In the Midwest, for instance, Michigan and Nebraska reported revenues sagging, while Illinois, Minnesota, and Iowa all said their income for fiscal 1958 was running ahead of estimates. Michigan, hit hard by unemployment in the automobile industry, estimates a deficit for the year of $20 million to $30 million, with sales tax receipts showing the biggest drop.

ARCHITECTURAL FORUM is published monthly by TIME INC., Time & Life building, 9 Rockefeller Plaza, New York 20, N. Y.
SUBSCRIPTION SERVICE: Address all subscriptions and correspondence concerning them to: ARCHITECTURAL FORUM Subscription Dept., 540 N. Michigan Ave., Chicago 11, Ill. Subscription rates: in US, US Possessions and Canada, one year $5.50; elsewhere one year $10. Single copies, if available, $1.
CHANGE OF ADDRESS: Four weeks are required for change of address. When ordering a change please name magazine and furnish a label from a recent wrapper. If no label is available, please state as exactly as possible the address to which magazine has been sent. Changes cannot be made without old as well as new address.
EDITORIAL CORRESPONDENCE should be addressed to ARCHITECTURAL FORUM, 9 Rockefeller Plaza, New York 20, N.Y. FORUM will not be responsible for unsolicited manuscripts or illustrations submitted, and it will not return such material unless accompanied by postage.
ADVERTISING CORRESPONDENCE should be addressed to the advertising director, ARCHITECTURAL FORUM, 9 Rockefeller Plaza, New York 20, N.Y.
TIME INC. also publishes TIME, LIFE, FORTUNE, SPORTS ILLUSTRATED and HOUSE & HOME. Chairman, Maurice T. Moore; President, Roy E. Larsen; Executive Vice President for Publishing, Howard Black; Executive Vice President and Treasurer, Charles L. Stillman; Vice President and Secretary, D. W. Brumbaugh; Vice Presidents, Edgar R. Baker, Bernard Barnes, Clay Buckhout, Arnold W. Carlson, Allen Grover, Andrew Heiskell, C. D. Jackson, J. Edward King, James A. Linen, Ralph D. Paine Jr., P. I. Prentice, Weston C. Pullen Jr.; Comptroller and Assistant Secretary, John F. Harvey.



# "*Now* we can get rid of that stack"

## New Petro FORCED DRAFT burner for smaller boilers (OIL, GAS OR COMBINATION GAS-OIL)

This advanced Petro forced-draft burner is as compactly built and service-free as your home oil burner; yet it delivers some surprising extra values.

First, built into it is a complete combustion system, with forced draft air supply, fuel systems and prewired integral control panel—all assembled and tested at the factory.

Second, it eliminates the need for a high stack, yet requires no induced draft fan.

Third, a burner head of new design cures the old problem of flame pulsation, in both gas and oil firing—in either natural draft or pressurized boilers.

Finally, it is available for either light oil or gas firing—or a combination of both—with instantaneous change of fuel under either automatic or manual control.

Available as a complete burner unit for easy application to any type of boiler, from 18 to 92 bhp. Also available in a complete boiler-burner unit (with Scotch boiler) delivered at site, ready for service connections. For full description and specifications, please mail coupon.

*See Petro Catalog in Sweet's Architectural File*

**Makers of Quality Heating and Power Equipment since 1903**

**PETRO**

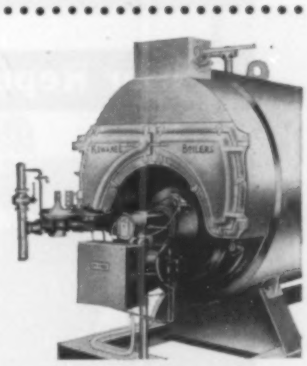
T. M. REG. U. S. PAT. OFF.

Forced draft . . . no stack or induced draft fan required.

No flame pulsation.

Single or dual-fuel firing.

Complete unit with Scotch boiler; or burner only for use with any type boiler.



PETRO
3213 West 106th Street
Cleveland 11, Ohio
(In Canada: 80 Ward Street, Toronto, Ontario.)

Please send me information on Petro P-240 Forced Draft Gas-Oil Burner.

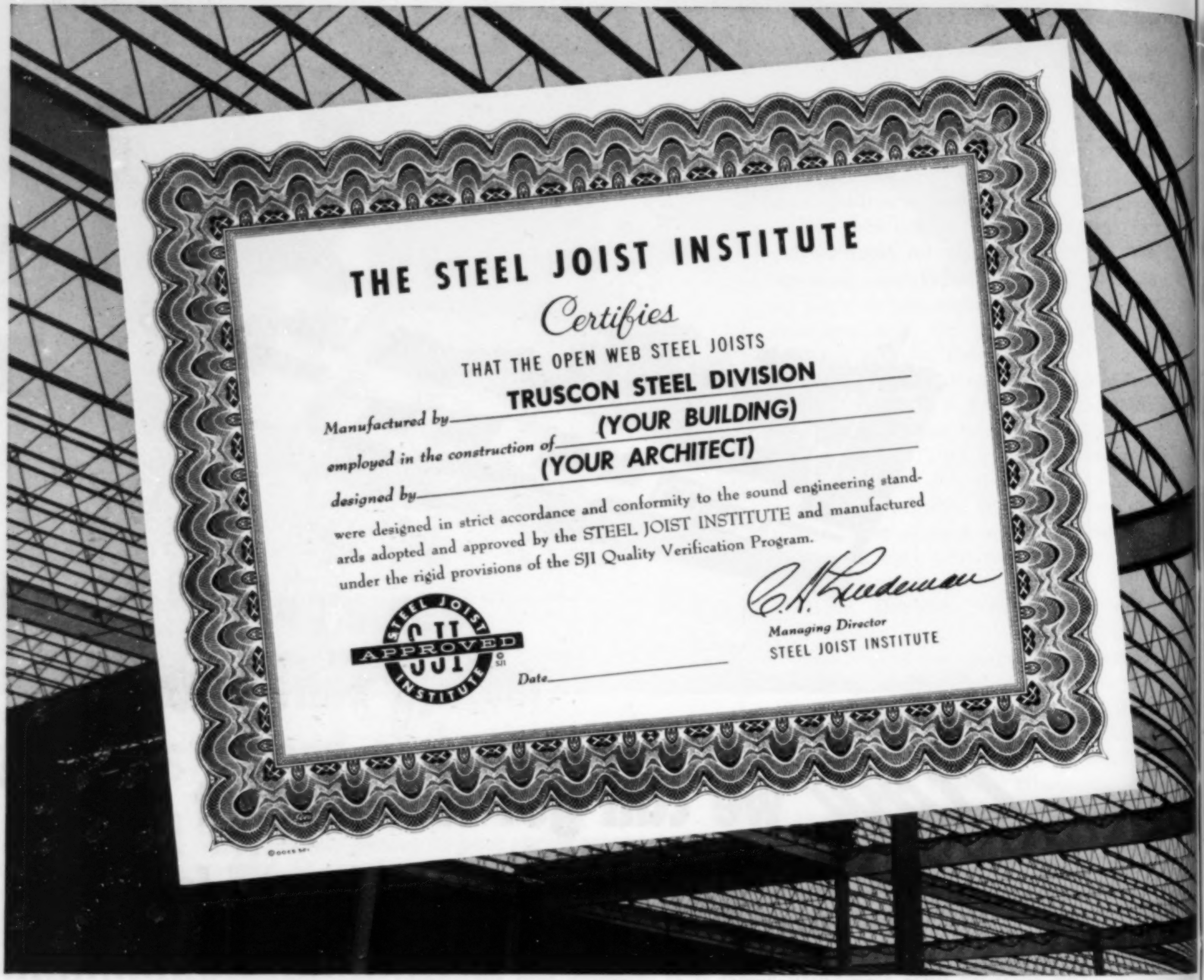
Name ..........................................................

Company ..........................................................

Address ..........................................................

City ................................State..........................

# Now...TRUSCON



THE STEEL JOIST INSTITUTE

*Certifies*

THAT THE OPEN WEB STEEL JOISTS

*Manufactured by* TRUSCON STEEL DIVISION

*employed in the construction of* (YOUR BUILDING)

*designed by* (YOUR ARCHITECT)

were designed in strict accordance and conformity to the sound engineering standards adopted and approved by the STEEL JOIST INSTITUTE and manufactured under the rigid provisions of the SJI Quality Verification Program.

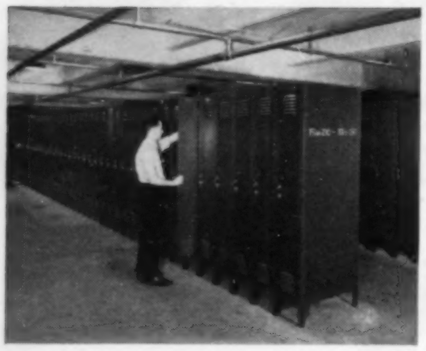
STEEL JOIST INSTITUTE APPROVED SJI

*Date*

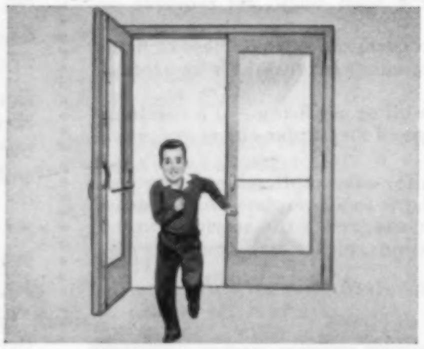
C. H. Luedeman

*Managing Director*
STEEL JOIST INSTITUTE

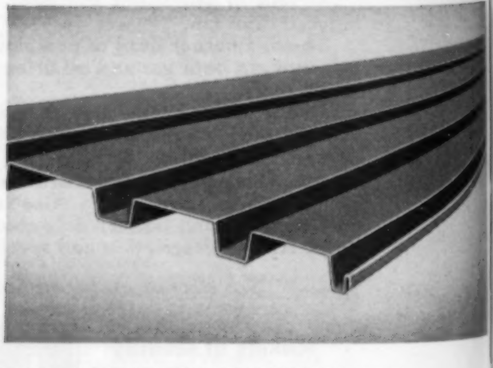
## Other Republic Steel Products for Safe, Dependable Construction



**REPUBLIC STEEL LOCKERS** are safe, pilfer-proof, tamper-proof. Wide choice of styles and locking mechanisms. Bonderized for lasting paint adherence and resistance to damage—practically maintenance-free. Send coupon today.



**TRUSCON Series 57 METAL DOORS** are designed to withstand the high frequency usage of commercial and public buildings. Available in a wide selection of types, designs, and finishes in both single-swing and double-swing units.



**NEW! 24-INCH-WIDE TRUSCON FERROBORD®** is now available in new design and in lengths up to 32′ 6″. It roofs large areas quickly. Straight lay means several crews can roof without delay. Strong, light, fire-resistant. Mail coupon.

# Certifies Every "O-T" Steel Joist

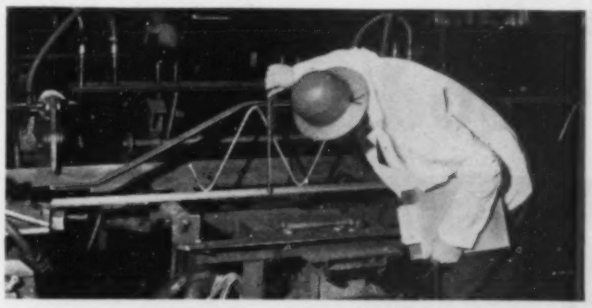
For your protection, Republic's Truscon Steel Division now offers you, upon request, written certification that the Truscon "O-T"® Steel Joists you specify are manufactured in accordance with the standards of the Steel Joist Institute and are fully qualified to bear the SJI Seal of Approval.

This certification is issued by authority of the Steel Joist Institute to cover "O-T" Open Truss Steel Joists for each individual building for which they are engineered. Written certification will also be provided the owner at your request.

This is further assurance of predictable, dependable load bearing. Don't take chances on just any joist. Specify Truscon "O-T" Shortspan Steel Joists . . . manufactured according to the rigid standards of the Steel Joist Institute and fully qualified to bear the SJI Seal of Approval—and now certified in writing.

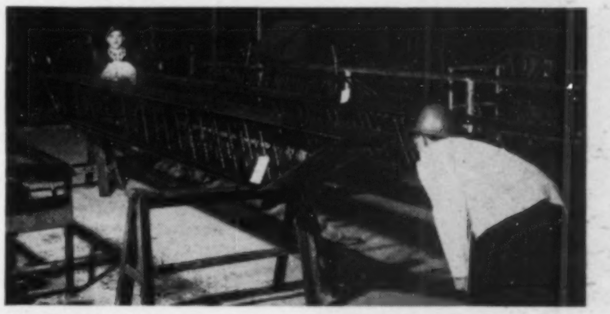
For additional information, see or call your Truscon representative . . . or send coupon today!

## THIS IS WHY TRUSCON CAN CERTIFY



The Quality Verification Program conducted by "this man in the white coat" is a continuing program of checking and inspecting of member company joist manufacturing processes and materials.

This thorough inspection on an unscheduled basis protects the integrity of the Steel Joist Institute Seal of Approval. This voluntary program gives the Seal of Approval real meaning.



The Quality Verification Program is administered for the institute by a nationally known testing laboratory. Every fabricating step is checked for adherence to standards. And, Truscon certifies it!

# REPUBLIC STEEL

REPUBLIC STEEL

*World's Widest Range of Standard Steels and Steel Products*

**REPUBLIC STEEL CORPORATION**
**DEPT. C-4989**
**3108 EAST 45TH STREET • CLEVELAND 27, OHIO**

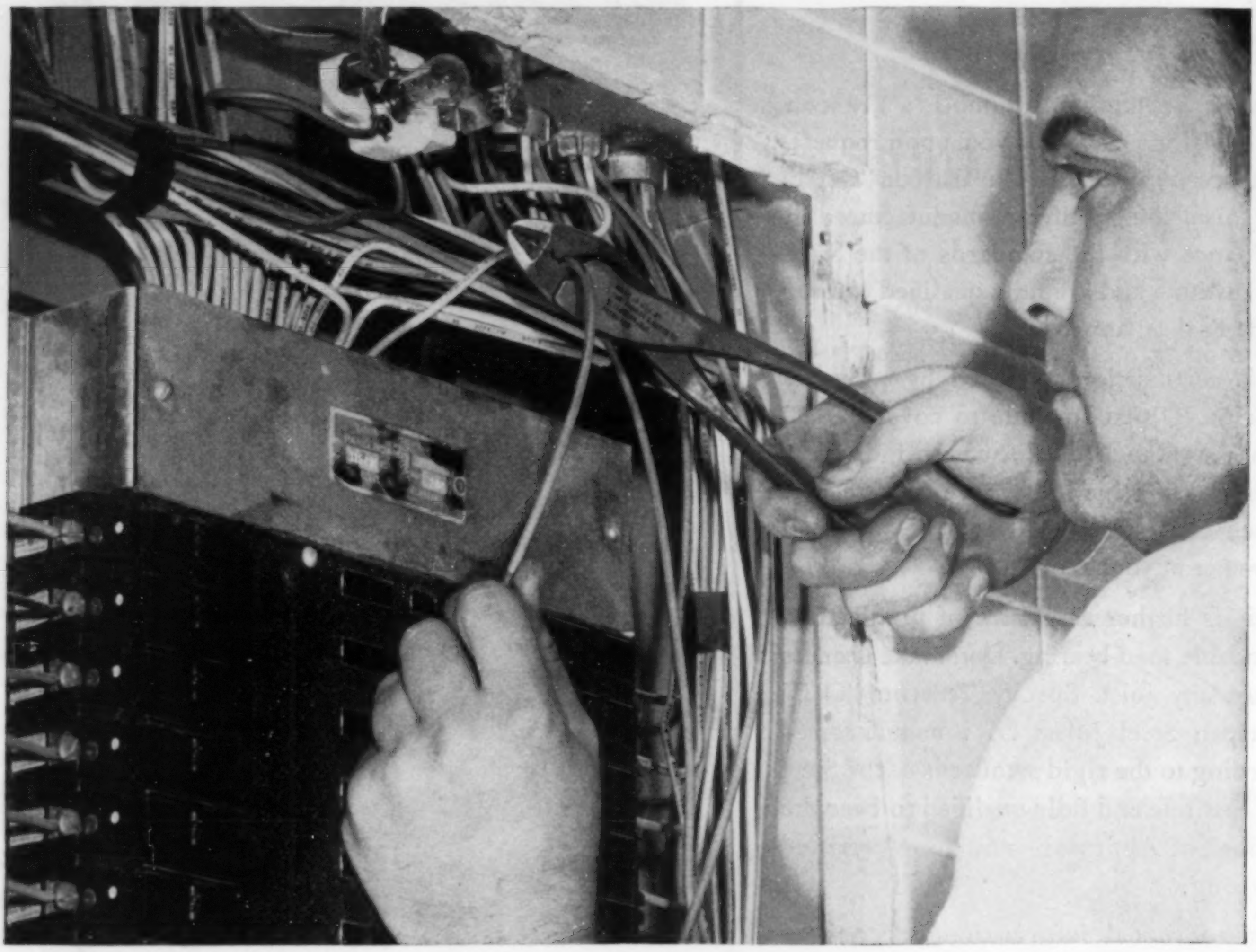
Please send information on the following Republic products:

☐ Truscon "O-T" Steel Joists ☐ Republic Lockers
☐ Truscon Series 57 Doors
☐ Truscon 24-Inch Ferrobord

Name____________________Title__________
Firm________________________________
Address______________________________
City_______________Zone____State________

***News about***

# B.F.Goodrich Chemical *raw materials*



## *For a lifetime of adequate wiring . . .* ***insulation of Geon***

BUILDING wire insulated with Geon polyvinyl materials is playing a prominent role in today's adequate wiring movement for homes and buildings. And for good reason.

These materials have exceptional properties that give TW building wire many desirable features: smaller overall wire diameters are possible because of improved insulating ability; permanent fire resistance; resistance to acids, oils, alkalies, dampness, fungi and voltage breakdowns. Since Geon polyvinyl materials have exceptional aging characteristics, insulation maintains strength and flexibility.

Owners like the safety and dependable service these "Geon-insulated" wires provide through the years. Contractors prefer them for their good flex, clean stripping qualities, toughness, abrasion resistance and the ease with which they pull through studs, joists and conduits.

For information write Dept. LV-1, B.F.Goodrich Chemical Company, 3135 Euclid Avenue, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

A TRADE MARK OF B. F. GOODRICH CHEMICAL COMPANY

**Geon**

*Polyvinyl Materials*

A DIVISION OF THE B. F. GOODRICH COMPANY

**B. F. Goodrich Chemical Company**
**a division of The B. F. Goodrich Company**

**B.F.Goodrich** **GEON polyvinyl materials • HYCAR American rubber and latex • GOOD-RITE chemicals and plasticizers • HARMON colors**

## Feature for Feature,

# Rō-Way Doors Give Extra Value

Check the specs on all overhead type doors. Make your own point by point comparison. You'll see, as hundreds of architects and builders have, that Ro-Way sets the pace for quality and value.

Ro-Way combines handsome appearance, rugged construction and beefed-up components to assure years of smooth, trouble-free service under the most punishing conditions.

Heavier millwork, for example. Brawnier hardware. And look at the features you'll find in *every* Ro-Way door. Seasoned west coast woods. Masonite® Dorlux® panels. Taper-Tite track and Seal-A-Matic hinges for weather-tight closure and instant opening. Ball bearing rollers for quiet, dependable operation. Big, Power-Metered springs, tensioned to the weight of each door. Rugged electric operators for fast, efficient service. Heavy duty hardware both Parkerized and painted to prevent rust and corrosion.

Yes, Ro-Way features add up to the greatest overhead door value on the market. So specify Ro-Way overhead type doors for all your commercial, industrial and residential buildings. They're available in standard and special sizes to meet any design problem.

*there's a Ro-Way for every Doorway!*

Find Your Nearest Distributor in The 'Yellow Pages'

SEE OUR CATALOG
IN SWEET'S ARCHITECTURAL FILE
OR WRITE FOR COPY

COMMERCIAL • INDUSTRIAL • RESIDENTIAL

**Rō-Way**
OVERHEAD TYPE DOORS

**ROWE MANUFACTURING COMPANY**
993 Holton Street, Galesburg, Illinois

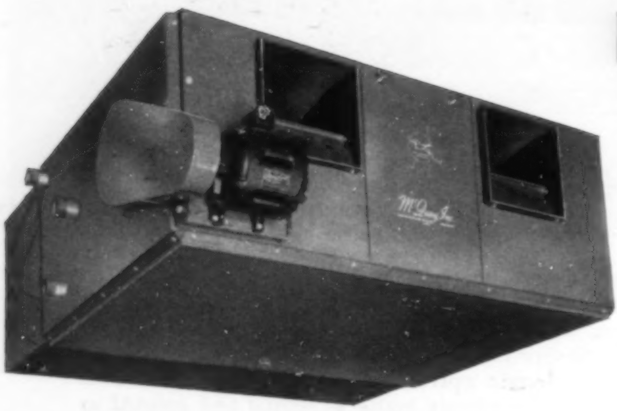
# you get MORE and MORE to choose from with

McQuay Seasonmaster central station air conditioners give you more of everything you want, more of everything you need. There is more inherent quality—more dependability—more rugged construction—more flexibility in location of coil connections and air openings—so necessary to that kind of satisfaction that only McQuay Seasonmaster provides. McQuay also gives you more to choose from, with 16 models in either horizontal or vertical type. Add to this the most complete combinations of heating and cooling coils—water, steam or direct expansion—all with the famous McQuay Ripple-Fin construction, and the wide range of accessories, and you have the most universal line of central station air conditioners in the industry. Yes, you really get more—and more to choose from with McQuay Seasonmaster central station air conditioners. For complete information, contact the McQuay representative in or near your city or write McQuay, Inc., 1609 Broadway St. N. E., Minneapolis 13, Minn.

McQuay

# SEASONMASTER

central station
air conditioners



McQuay Means Quality

**McQUAY HORIZONTAL SEASONMASTER**

*McQuay horizontal Seasonmaster,* shown above, with water coil, steam coil and "V" filter section. Removable panels permit complete accessibility for inspection or service. All Seasonmaster coils are made with the exclusive McQuay Ripple-Fin construction.

**McQUAY VERTICAL SEASONMASTER**

*McQuay vertical Seasonmaster,* shown above, with direct expansion coil, steam coil, face and by-pass, and flat filter section. Heavy gage galvanized channel framework to form a rigid structure. Sixteen sizes available in either horizontal or vertical type. C.F.M. range from 640 to 29,000.

McQuay INC.

*AIR CONDITIONING*
*HEATING*
*REFRIGERATION*

*In School Planning specify economical*

# BOGEN BUILDING-BLOCK SOUND SYSTEMS

***the "basic" for small schools***

The inexpensive Bogen single-channel console, with built-in radio tuner and slide-out record player, distributes radio programs, recordings and speech to any or all of 20 classrooms.

***the "basic plus" for larger schools***

By the addition of a "top hat" of classroom selector switches, facilities can be provided for up to 60 additional rooms.

***add intercom***

Intercom is readily incorporated into the console at any time. This provides 2-way conversation with any teacher in the school.

***multiple channels***

By adding several Bogen components, you can convert into a 2- or 3-channel system, permitting distribution of 2 or 3 programs simultaneously to different groups of rooms.

To find out all the things a Bogen Sound System can do to simplify your planning — and at the lowest possible cost — request our 16-page brochure **(or see Sweet's Architectural File 33a/Bo).**

**MAIL COUPON TODAY**

**Bogen**
**SCHOOL SOUND SYSTEMS**
A DIVISION OF THE SIEGLER CORPORATION

David Bogen Co.,
Paramus, N. J. Dept. F-2

Gentlemen: Send your 16-page brochure describing Bogen Sound Systems for Schools.

Name____________________

Address____________________

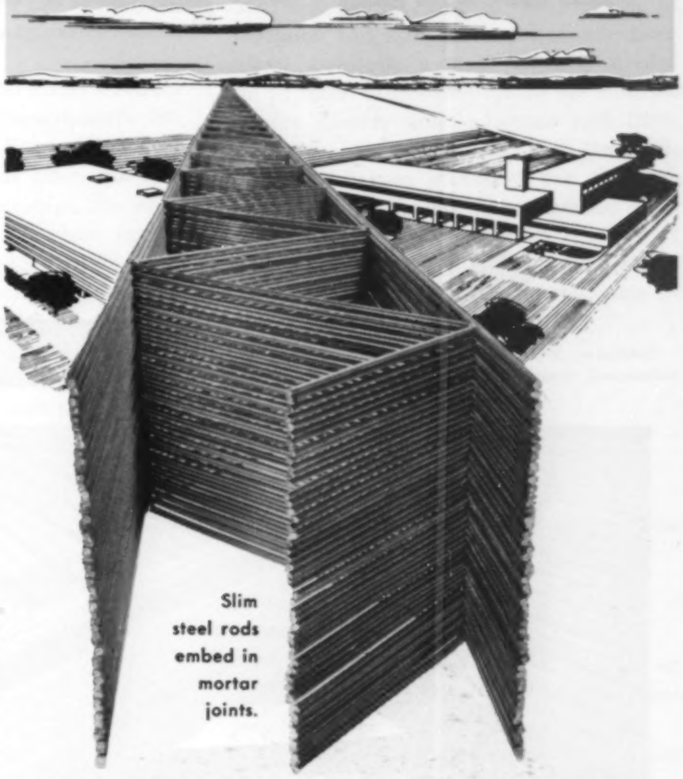
City____________Zone______State________

☐ Please include the name and address of the Bogen Sound Specialist nearest me.

*Manufacturers of High-Fidelity Components, Public Address Equipment and Intercommunication Systems.*

---

# the specified masonry reinforcement preferred *EVERYWHERE!*



Slim
steel rods
embed in
mortar
joints.

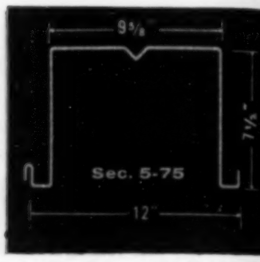
All segments of the building industry depend on Dur-O-waL masonry wall reinforcement. This fabricated, high tensile steel reinforcing member scores on performance . . . safeguards masonry beauty. Available throughout the continent Dur-O-waL is ready for delivery to your building sites to provide hidden quality for superior construction.

**TRUSSED DESIGN**
**BUTT WELD**
**DEFORMED RODS**

## DUR-O-WAL

**Rigid Backbone of Steel For Every Masonry Wall**

Dur-O-waL Div., Cedar Rapids Block Co., **CEDAR RAPIDS, IA.** Dur-O-waL Prod., Inc., Box 628, **SYRACUSE, N. Y.** Dur-O-waL of Ill., 119 N. River St., **AURORA, ILL.** Dur-O-waL Prod. of Ala., Inc., Box 5446, **BIRMINGHAM, ALA.** Dur-O-waL Prod., Inc., 4500 E. Lombard St., **BALTIMORE, MD.** Dur-O-waL Div., Frontier Mfg. Co., Box 49, **PHOENIX, ARIZ.** Dur-O-waL, Inc., 165 Utah St., **TOLEDO, OHIO**



### announcing...

## *Two new Robertson*

# Long-Span Deck Types...

**H. H. Robertson Company**

2403 Farmers Bank Building • Pittsburgh 22, Pennsylvania

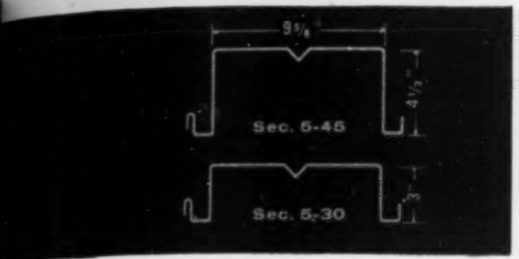
Please send additional information on Long-Span Q-Deck.

NAME _______________ TITLE _______________

COMPANY _______________

ADDRESS _______________ CITY _______________

Because Long-Span Q-Deck is manufactured with exceptional accuracy, rib lines are clean and straight—make ideal exposed ceilings. And because the fluted shape has demonstrated a marked degree of noise reduction, further acoustical treatment is not necessary in many cases.



The basic cross-section of Section 5-45 and 5-30 is the same as standard long-span Section 5-75. Only the height changes.

S. . . . for new roof design freedom

Robertson's Section 5 Long-Span Q-Deck has enjoyed wide acceptance since its introduction two years ago. It has filled the requirements for economical long spans in the construction of schools, supermarkets and other building types. Now, two new variations have been added to further increase cost-savings and add to design latitude.

You will notice from the drawings above that the basic cross-section is the same—only the vertical dimensions have been changed. The underside of the decks retain the same appearance making practical the combination of all three types for greater economy for varying load and span requirements.

As with all of Robertson's five Q-Deck types, the new Long-Span designs are weight-saving, strong, precisely made and easily erected. Lighting fixtures can be recessed, surface mounted or suspended. Any type of insulation (1" minimum) and built-up roofing can be applied. Write for literature which includes complete details, load and property tables.

ROBERTSON LONG-SPAN
Q-DECK
H. H. ROBERTSON COMPANY
2403 Farmers Bank Building • Pittsburgh 22, Pa.
In England—Robertson Thain Ltd., Ellesmere Port, Cheshire
In Canada—Robertson-Irwin Ltd., Hamilton, Ontario

# Letters

## . . . worthy embassies . . . cute gallery . . . needed schools

### U.S.A. ABROAD

Forum:

I am happy to see the FORUM carrying the ball for worthy and imaginative official architecture.

Your comments about the architect-client relationship at the State Department's Office of Foreign Building (FORUM, Dec. '57) are penetrating. I have not often run into a more satisfactory relationship. The aims are clearly defined, the premises agreed upon, and the utmost freedom within these limits is granted. The opportunity to match wits with one's peers is most rewarding.

Equal credit should be given the distinguished architects who have served or are serving on the committee and the discerning and able administrators and project managers in the Foreign Buildings Office for their smooth operation of this program.

Private industry could learn a great deal from their methods.

**HARRY WEESE**, *architect*
*Harry Weese & Associates*
*Chicago, Ill.*

### CLUTTERED GALLERY

Forum:

Does not the cube allow and invite complete freedom within its well-defined space? Mr. Kiesler's jungle-space in The World House Gallery (FORUM, Oct. '57) is limiting, confining, confusing, and mostly cute.

The Gallery fails chiefly because, being such a cluttered space, it fights the pictures and overwhelms them.

**WILLIAM JOHN GARD JR.**, *treasurer*
*Parsons School of Design*
*New York, N. Y.*

### THAT READER'S DIGEST ARTICLE

Forum:

Congratulations on a very fine job in answering the *Reader's Digest* article on school architecture (FORUM, Nov. '57).

This is the kind of leadership in public relations the architectural profession is so badly in need of. Architects design school buildings, and it logically follows that they should lead in providing the school community with the advances afforded us by our technology. We need progressive leadership—your article is a big step in this direction.

**DEAN L. GUSTAVSON**, *architect*
*Salt Lake City, Utah.*

Forum:

Your school articles continue to render an extremely important service to education. You are bringing to many boards of education and many able and conscientious school architects a most urgently needed aid in their efforts to provide the children of our country with adequate and functional school buildings built with the maximum of effective economy. For this you have our very sincere appreciation.

We are going to mail 850 reprints of FORUM's *Digest* article to the presidents of all the boards of education in the State of New York.

**THOMAS C. FETHERSTON**, *president*
*New York State School Boards Association*
*Albany, N. Y.*

Forum:

. . . an excellent rebuttal.

**A. L. PETERSON**, *regional director*
*Structural Clay Products Institute*
*Denver, Colo.*

Forum:

Please mail a copy to each member of our Board of Education. I found the issue very exciting.

**ROBERT SARGENT SHRIVER JR.**, *president*
*Board of Education*
*Chicago, Ill.*

Forum:

May I have three more copies to help us convince our school board and superintendent of the inaccuracies and misconceptions created by the *Reader's Digest*?

**EILEEN McHUGH**
*Gloucester Citizens for Better Schools*
*Gloucester Point, Va.*

Forum:

. . . a wonderful job.

**ARTHUR RIGOLO**, *architect*
*Clifton, N. J.*

Forum:

Your article answering the *Reader's Digest* attack on school construction is a service not only to the architectural profession but to everyone who is concerned with decent educational values. There is probably no greater field for misrepresentation than the economic evaluation of our new schools.

It is presently fashionable to consider what facilities are necessary to education. The elimination of all the specialized

*continued on page 58*

Meeting Your Rigid Specifications...

**U-GROUND**
A complete line of 3-wire grounding devices — caps and receptacles.

**LEVITON**
SPECIFICATION (5000) GRADE
Look for a LEVITON 5000 number on the devices you specify. It proves that you are getting a LEVITON Specification Grade device—your assurance of top quality and dependability.

**QUIET SWITCHES**
A full line of 15 A and Heavy Duty 20 A—AC Quiet Switches.

**LEV-O-LOCK**
A full line of 2, 3, 4-wire devices in 10, 20, 30 amp. ratings . . . for dependable connections. (Push-turn-it's Lev-O-Locked!)

*your best jobs are done with . . .*
LEVITON MANUFACTURING COMPANY, INC.
Brooklyn 22, N. Y.
LEVITON
Chicago • Los Angeles • Leviton (Canada) Limited, Montreal
*For your wire needs, contact our subsidiary* AMERICAN INSULATED WIRE CORP.

teaching rooms, approached from the point of view of economy, can only lead eventually to the further intellectual impoverishment of our country.

We are now suffering from the first fruits of the elimination of "frills" in education. Any measures that are taken to reverse this tendency constitute a high public service. For this reason, particularly, I commend you for exposing the fallacies in the *Reader's Digest*.

RICHARD G. STEIN, *architect*
*Architects Associated*
*New York, N. Y.*

Forum:

The position of architects and designers and their value to society are all too unknown to the general public. Instead of a positive, continuing, and abundant program of education of the public, we find little if any information dispersed. The AIA doubtless has some kind of program, but it is nowhere near adequate. If we do not like to see articles such as *Reader's Digest's*, it would seem wise to "get there first" with some positive education for the public.

JOHN CARDEN CAMPBELL
*Campbell & Wong, architects*
*San Francisco, Calif.*

### COST COMPARISON

Forum:

I have spent a good many years reading articles on construction costs, hoping I will find an authentic essay by someone with no ax to grind, someone who makes his living deciphering that most important question in the world of building, "What's it gonna cost?"

Even after looking at your fine piece, "How to compare school costs" (FORUM, Nov. '57), I'm discouraged.

JACQUES ING CRAMER PRIEST
*Estimators Ltd.*
*Los Angeles, Calif.*

■ FORUM *seeks no easy answer to cost comparison, but it does seek a more accurate one.*—ED.

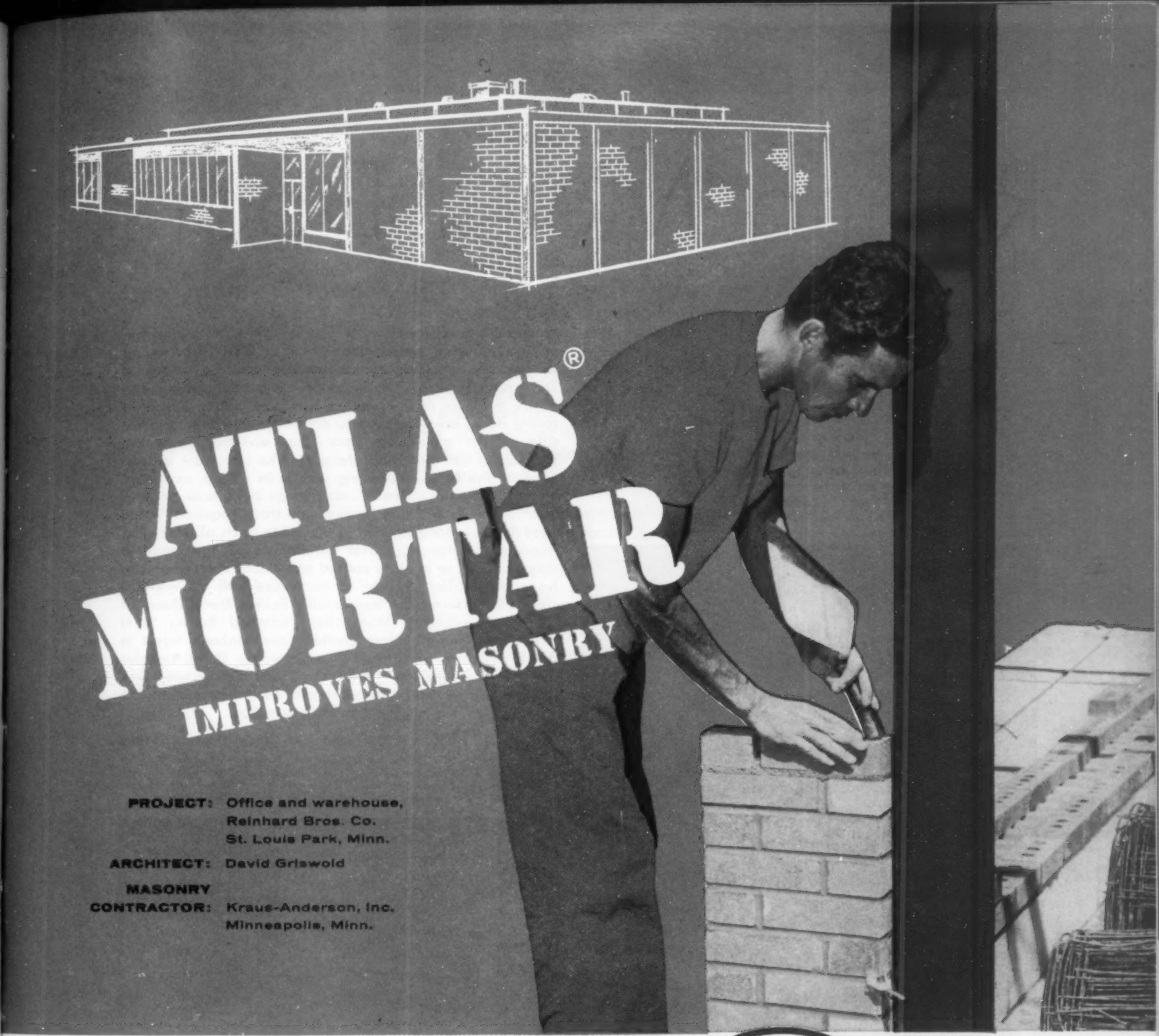
### SLAG'S STATISTICS

Forum:

Your article on lightweight aggregates (FORUM, Sept. '57) is excellent. However, the properties listed for expanded slag are inaccurate. Values for the overall range of compressive strength are: modulus of elasticity—2.0 to 4.0; shrinkage—0.02 to 0.04; and conductivity—1.5 to 3.0.

E. W. BAUMAN, *managing director*
*National Slag Association*
*Washington, D. C.*

END



**PROJECT:** Office and warehouse, Reinhard Bros. Co. St. Louis Park, Minn.

**ARCHITECT:** David Griswold

**MASONRY CONTRACTOR:** Kraus-Anderson, Inc. Minneapolis, Minn.

**". . . provides a more uniform, workable mortar,"**

says R. J. Randolph, Mason Foreman
Kraus-Anderson, Inc.
Minneapolis, Minn.

- To produce serviceable, watertight masonry walls, the mortar mix must be plastic—and have adequate "board life."
- Masons on the job consistently confirm that ATLAS MORTAR cement *does retain* its workability—and gives higher yields.
- Quality-controlled manufacture of ATLAS MORTAR cement maintains high product standards, assuring uniform performance and appearance on every project.

(*Complies with ASTM and Federal Specifications.*)

Write for your copy of "Build Better Masonry,"
Universal Atlas, 100 Park Avenue, New York 17, N. Y.

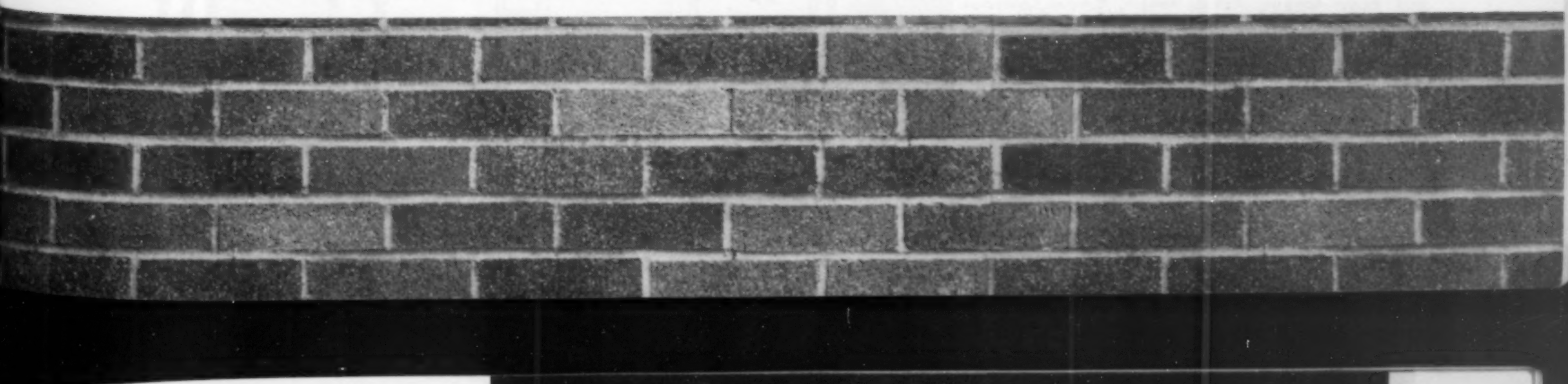
UNIVERSAL ATLAS CEMENTS

USS

M-69 TRADE-MARK

**UNIVERSAL ATLAS CEMENT COMPANY**—member of the industrial family that serves the nation—**UNITED STATES STEEL**

**OFFICES:** *Albany · Birmingham · Boston · Chicago · Dayton · Kansas City · Milwaukee · Minneapolis · New York · Philadelphia · Pittsburgh · St. Louis · Waco*



# Rolling Metal Doors

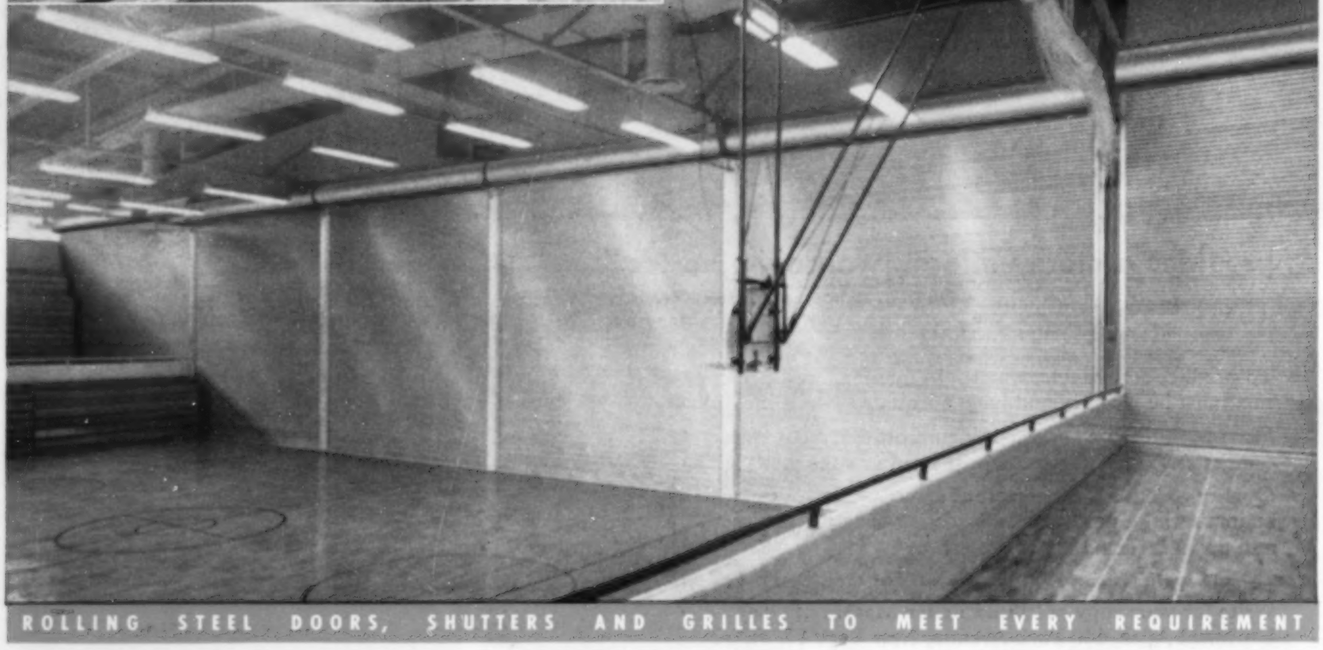
## *Provide Removable Dividing Wall in School Gymnasium!*

**The six aluminum rolling doors illustrated here, which form a dividing wall in a school gymnasium, are electrically controlled by push-buttons on a single panel. When the doors are fully opened, the mullions between doors on the main floor are moved out of the way by means of an overhead track and nested at either side, leaving the entire gymnasium floor clear.**

Roll-up Doors of Aluminum or Stainless Steel, with movable mullions, offer the best solution to the problem of providing a removable dividing wall in modern school gymnasiums. Three power operated rolling doors are usually employed to divide the main floor area . . . two more power operated rolling doors are employed to divide the balcony on either side of the gymnasium floor—thus dividing the entire gymnasium into two separate parts. The important advantage of this type of dividing wall is its roll-up, overhead storage when not in use . . . no storage pockets to consume floor space and obstruct vision—no track required in the floor. In the installation below, all visible parts of the rolling doors are aluminum. Similar installations can be made in stainless steel, or in prime coated galvanized steel which can be painted after erection to harmonize with the general decorative scheme. For high quality Rolling Metal Doors of all types, including Underwriters' Labeled Rolling Steel Fire Doors and Window Shutters, see Mahon's Insert in Sweet's Files, or write for Mahon Catalogue G-58. Inquiries relative to special purpose doors, and installations such as the one illustrated here, should be addressed to the Home Office in Detroit for prompt attention.

**THE R. C. MAHON COMPANY • Detroit 34, Michigan**

Sales-Engineering Offices: Detroit, New York, Chicago • Representatives in Principal Cities
Manufacturers of Rolling Metal Doors, Grilles, and Automatic Underwriters' Labeled Rolling Steel Fire Doors and Shutters; Insulated Metal Curtain Walls and Underwriters' Rated Fire Walls; Electrified M-Floors; Roof Decks and Long Span M-Decks.



**ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT**

Interior view of Gymnasium in the new Birmingham High School, Birmingham, Michigan. Swanson Associates, Bloomfield Hills, Michigan, Architects. Cunningham-Limp Company, Detroit, Michigan, General Contractors.

# MAHON

# Wright to design dome theater for Mike Todd; planning expert to study metropolitan Washington

A unique amalgam of personalities in architecture, industry, and the entertainment business cropped up recently with the announcement that **Frank Lloyd Wright** is designing theaters for show-business titans **Mike Todd** and **Sylvester L. (Pat) Weaver** (former head of NBC). Wright will design a basic theater, using as a central element the Kaiser Aluminum dome, originally designed for Kaiser by **Buckminster Fuller.** Todd, Weaver, and **Henry J. Kaiser** are backing the enterprise, which plans to build theaters to be sold to franchised dealers throughout the world. Wright has the title of "master architect" with the new company, called Dome Enterprises, and Weaver is president and manager.

The whole thing started when Todd and Weaver began looking for a different type of theater into which they could pour what they call "packaged entertainment." Chief ingredients of the package would be Todd's spectacle-type movies, such as *Around the World In 80 Days*. These are geared particularly to the Todd A-O screening process (although they can also be projected on a flat screen), and Todd A-O will be part of the package for any local exhibitor who takes out a Weaver-Todd dome theater franchise. Says a spokesman for the group, "It'll be something like Howard Johnson's—only with movies."

Wright isn't the only person revamping Fuller's dome. Kaiser engineers are also working on some modifications of the original dome. Chief among these is the replacement of the 25 piers, on which the dome presently rests, with only five piers. Kaiser expects to lick this problem without much trouble.

Wright's job, according to a company spokesman, is to "design a theater that will incorporate the dome but which will make the Kaiser dome distinctive from other domes." So far, Wright has not come up with a design, and there is no set schedule for getting the new design into production. (The dome itself will probably stay the same size as the first three that have been built by Kaiser—145 feet in diameter.)

IMPACT PHOTO, INC.

WEAVER WRIGHT TODD KAISER

Meanwhile, Fuller's basic dome is attracting continuing interest. In Walnut Creek, near San Francisco, **David Huenergardt**, of Pavilion Theater Inc., plans to build a Kaiser-Fuller dome theater for musical comedies and live drama. Huenergardt hopes to finance the construction through a $440,000 stock issue. In Quantico Va., the geodesic dome is threatening to put the tent out of business, at least for the Marine Corps. The Corps is testing a plastic-covered, 36-foot-diameter dome for use as a field headquarters.

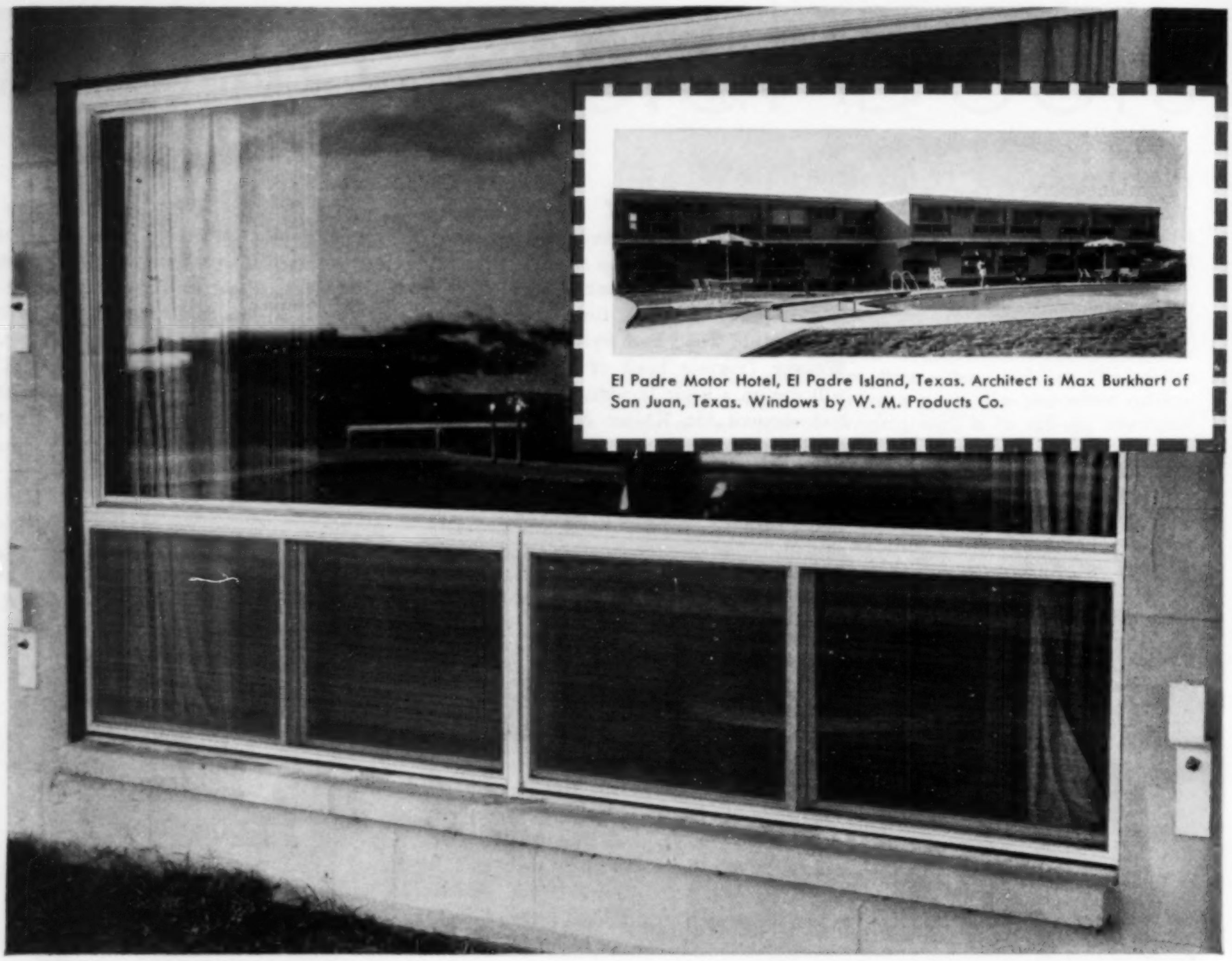
GRETCHEN VAN TASSEL

GUTHEIM

## *APPOINTMENTS*

**Frederick A. (Fritz) Gutheim**, 49-year-old planning consultant and author, has been appointed staff director for the joint Senate-House committee looking into the myriad civic problems of metropolitan Washington D. C. Gutheim will take a year's leave of absence from his job as vice president of Galaxy Inc., management consultants, to devote full time to the committee job. A long-time resident of the Washington area, and a well-known planner and lecturer on urban problems, Gutheim was picked over 12 other candidates for the staff post, which pays $14,800. . . . **Dr. Julius A. Stratton**, acting president of the Massachusetts Institute of Technology, announced that MIT's School of Architecture and Planning will have a new division, called the Center for Urban and Regional Studies. Partially supported by the Rockefeller Foundation, the new Center "will try to determine what the physical form of the metropolitan region of the future should be and what we can do to bring it about," says Dr. Stratton.

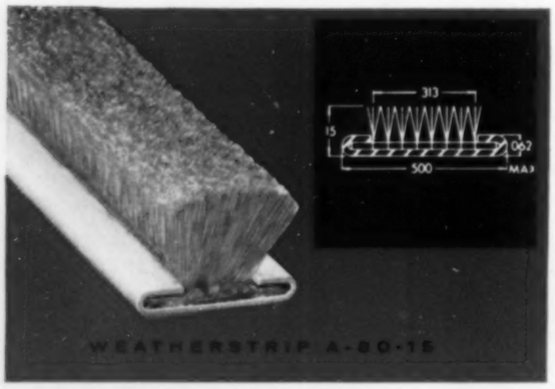
*continued on page 63*



El Padre Motor Hotel, El Padre Island, Texas. Architect is Max Burkhart of San Juan, Texas. Windows by W. M. Products Co.

Only the view gets through with DrafTite*

WOOL PILE WEATHERSEAL



Dense wool pile secured to an aluminum core provides an effective seal against air infiltration and exfiltration and at the same time permits the vent to be opened and closed quietly and easily.

*Heat, wind, sand and ocean spray* are kept outside . . . air-conditioned comfort is sealed inside. The El Padre Motor Hotel, El Padre Island, Texas, does it with Watson Horizontal Slide Windows by W. M. Products Co., and DrafTite* wool pile weatherstripping.

*Manufacturers of quality* metal windows adopt DrafTite . . . because there's nothing better for a permanent, leak-proof, wind-resistant seal around the perimeters of windows—whether sliding, double hung or other movable types. Why don't you call on our engineering facilities to help solve your sealing problems? Or send for our catalog illustrating DrafTite standard sizes and shapes for every type of window and door.

*Trade Mark

The Standard Products Co.

BUILDING PRODUCTS DIVISION, 316 FISHER BLDG., DETROIT 2, MICH.
PLANTS AT LEXINGTON, KENTUCKY AND FULLERTON, CALIFORNIA

Heading the Center will be a 12-year veteran of MIT's City and Regional Planning Department, **Dr. Lloyd Rodwin.** Rodwin plans to use advanced mathematical techniques, including an IBM 704 electronic computer, in the Center's urban studies. . . . The new president of the American Academy in Rome is New York Landscape Architect **Michael Rapuano,** of **Clarke & Rapuano.** Now in its 64th year, the American Academy fosters the arts and humanities, mainly through granting fellowships to American artists and scholars to study in Rome. The scholarships are financed by income from the Academy's endowment fund. . . . Two recent appointments to the Urban Renewal Administration are **Charles Lowrey Oswald** and **Lester M. Haddad.** Oswald, who is 65, has been made deputy commissioner. Oswald has had no previous experience in housing or building, but recently retired after 41 years with the Bell Telephone System. At his retirement, he was assistant vice president of the Chesapeake & Potomac Telephone Co. Haddad has been appointed director of URA's demonstration grant program. The program allows URA to make grants up to two-thirds of the cost of a project to local public agencies for experiments and research in facilitating urban renewal projects.

ALBURTUS—YALE NEWS BUREAU

SMITH

### *YALE DEAN RETIRES*

Yale University announced the retirement of **Boyd M. Smith,** dean of the Yale School of Architecture and Design. Two years ago, Smith reached the arbitrary retirement age of 70 but stayed on to head the school until a new dean, **Gibson A. Danes** (FORUM, July '57), could take over. Danes was formerly chairman of the Department of Art at the University of California in Los Angeles.

### *COLISEUM SUIT SETTLED*

In Los Angeles, the last legal impediment to construction of the Los Angeles Coliseum was cleared with the settlement of a suit brought against the Coliseum commission last April by **Stiles** and **Robert Clements,** original architects on the project. The Clementses, who were discharged from the Coliseum job last year because their plans "did not comply with the financial limits of the project," originally sued for $374,434, around six per cent of the estimated total $6 million cost of the project. But they settled out of court for $60,000. Replacing the Clementses on the Coliseum project are **Welton Becket & Assocs.** Construction will start early next month.

LESTER L. KRAUSS

SHEPLEY WALKER BELLUSCHI

### *STATE DEPARTMENT COMMENDED*

The Architectural League of New York, the AIA, LIFE, and FORUM teamed together to give the U.S. State Department a pat on the back for the distinguished design of its embassies abroad. **Olindo Grossi,** president of the League, presented a citation to **William P. Hughes,** who accepted on behalf of Secretary of State Dulles. FORUM cited the three architects who were on the advisory board of the State Department's Office of Foreign Buildings when the prize-winning embassies were designed: **Pietro Belluschi, Henry R. Shepley,** and **Ralph T. Walker.** (Today's architect members: **Eero Saarinen, Edgar I. Williams, Richard M. Bennett.** The State Department appoints a staff member and a diplomat to the five-man advisory committee.) The awards were made at a special exhibit of models and photographs of U.S. embassies, held at the League's midtown New York headquarters.

### *ARCHITECTS, BY DEGREES*

**Melton Ferris,** AIA California Council executive director, gave a State Senate committee—and the whole architectural profession—some provocative facts at a recent hearing on the operations of California's Department of Professional and Vocational Standards, which includes the State Board of Architectural Examiners. Ferris told the senators that the Board had checked the educational backgrounds of the last 1,000 architects it licensed and had found that more than one-third of those who passed the state examination had never completed college and did not have a degree from an accredited school of architecture. Yet the 329 persons in this category did nearly as well in the state exams as did those who had received degrees—the latter had to take the exams an average of 2.8 times before passing, while the group without degrees took it an average of 3.14 times. Thirty-two applicants who had never had any formal education after high school passed the state exam after taking it an average of 3.26 times, Ferris said.

*DEATHS:* **Henry van de Velde,** 94, a pioneer in the earliest days of modern architecture, died in Switzerland. Though little known in this country, van de Velde, a Belgian, was highly regarded throughout Europe as both an architect and designer. His furniture exhibit at Dresden in 1897 is credited with setting into motion the whole European arts and crafts reform movement. Van de Velde headed the Weimar Academy for Arts and Crafts, which propagated the notion of "werkbund"—the union of all the arts and social sciences. In 1918, van de Velde stepped down and recommended as his successor **Walter Gropius,** who carried the "werkbund" idea further with the establishment of the famed Bauhaus, an extension of the Weimar Academy.

OLMSTED

Landscape Architect **Frederick Law Olmsted,** 87, died at Malibu Calif. It was Olmsted who pioneered Harvard University's famous courses in landscape architecture just after the turn of the century. In 1905, he was one of the original founders of the American Academy in Rome. He started his career in the office of his father, Frederick Law Olmsted, who, with Calvert Vaux, designed New York's Central Park. He was instrumental in the development of the national park system, serving on the Commission of Fine Arts and with the National Capital Park and Planning Commission.

**Walter McQuade,** 68, architect for the Port of New York Authority, died at his New York City home. McQuade was once editor of *The Architect* and is well known for his design of the Port Authority Bus Terminal and the approaches to the Lincoln Tunnel.

**Prof. Ernest Wilby,** 89, died in Windsor Ont. Wilby is remembered for his pioneering work with Architect Albert Kahn in developing concrete pier and steel sash systems for handsome early industrial construction. He supervised the building of Henry Ford's Highland Park automobile plant and the headquarters for the *Detroit News.* END

# BRIGHT AND WASHABLE FACES...

**GOING UP ALL OVER AMERICA...**

Fiberglas Acoustical Ceilings in offices, stores, hotels, hospitals and schools. Pictured above is the Main Lobby of the Fontainebleau Hotel in Miami Beach, Florida, where Fiberglas SONOFACED Tile was used.

## FIBERGLAS SONOFACED TILE

New Design "C" SONOFACED* Tile is pleasingly bright to start with—and it stays that way because its surface is easily washable. At one and the same time, Fiberglas* SONOFACED Tile provides an acoustical ceiling, a thermal barrier and a beautiful decorative effect. Available in 24" x 24" as well as standard tile sizes. You've never specified a more versatile ceiling! Owens-Corning Fiberglas Corp., Dept. 171B, Toledo 1, Ohio.

OWENS-CORNING
**FIBERGLAS**

*T.M. (Reg. U. S. Pat. Off.) O-C.F. Corp.

WEIRKOTE® — THE RIGHT CHOICE BY EVERY MEASURE

No matter what the specifications of your heating or air-conditioning duct work, Weirkote will meet them as only a quality zinc-coated steel can. No other metal can match it.

Take, for instance, the strength and rigidity of Weirkote. It's a natural for spanning large areas without bending or buckling and with a minimum use of supporting brackets. Consider, too, its fire protection. Its higher melting point makes it provably safer than competing metals. Since ducts sometimes carry volatile matter with a low flash point, this protection can be vital.

Important, too, is Weirkote's economy. Made by the continuous process which integrates zinc and steel, Weirkote can be worked to the very limits of the steel itself without flaking or peeling. Permanent corrosion resistance is provided in every seam and surface. Which, of course, all adds up to longer, maintenance-free life for Weirkote ducts. And its ease of installation cuts cost still further.

After a Weirkote duct installation is in and operating, your clients will find still another reason to be glad you specified Weirkote—it's quiet. Noisy creaks and cracks of expansion and contraction are minimized. With all these advantages plus economy, you just can't go wrong with Weirkote.

*Free Weirkote Booklet*

*Send for the new booklet on Weirkote today. Write Weirton Steel Company, Dept. P-4, Weirton, W. Va.*

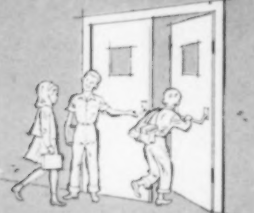
WEIRTON STEEL COMPANY

**WEIRTON STEEL COMPANY**

WEIRTON, WEST VIRGINIA

a division of

NATIONAL STEEL CORPORATION



CUSTOM LOOK...CUSTOM QUALITY...

AT STANDARD DOOR PRICES

**Amweld**® now offers a complete line of steel doors and frames — including commercial and institutional types — well suited to meet your school building requirements. In many communities, standard doors and frames have proven to be the common-sense way to stretch building appropriations without sacrificing appearance or quality of construction. Why pay premium prices for custom-made doors and frames, when Amweld's mass-produced line can satisfy virtually all school conditions?

Find out just how versatile Amweld is in the school field, and how much can be saved per opening, by selecting from Amweld's comprehensive line of steel doors and frames. For dollar-saving answers to your school door problems, write today or call your nearest Amweld Building Products Distributor. You will be pleased to see how completely and economically Amweld can fit into your school building plans.

For complete information on Amweld's doors, frames, and closet units, send for free catalog today.

AMWELD® BUILDING PRODUCTS DIVISION
The American Welding & Manufacturing Co.
534 Plant Street Niles, Ohio

ARCHITECTURAL FORUM
PUBLISHED BY TIME INC.
EDITOR-IN-CHIEF: Henry R. Luce
PRESIDENT: Roy E. Larsen

EDITOR:
Douglas Haskell, AIA
MANAGING EDITOR:
Edgar P. Smith
EXECUTIVE EDITOR:
Joseph C. Hazen Jr., AIA
ART DIRECTOR:
Paul Grotz
ASSOCIATE EDITORS:
David Allison; Peter Blake; Russell Bourne; David Carlson; Frank Fogarty; Marilyn Grayboff; Jane Jacobs; David G. McCullough; Walter McQuade, AIA; Richard A. Miller, AIA; Richard Saunders; Ogden Tanner; Stephen G. Thompson
ASSISTANT TO THE EDITOR:
Mary Jane Lightbown
RESEARCH STAFF:
Mireille Gerould, chief; Mary Ann Hill; Joan Mebane; Kip Mueller; Anne Peyton; Mary Elizabeth Young
ART STAFF:
Ray Komai, associate director; Martha Blake; Charlotte Winter
EDITORIAL ASSISTANTS:
Anne LeCrenier; Dorothy O'Shea; Henry Martin Ottmann; Ann Wilson
CONSULTANTS:
Miles L. Colean, FAIA; Carl Feiss, AIA; Lawrence Lessing

PUBLISHER:
Ralph Delahaye Paine Jr.
GENERAL MANAGER:
Charles B. Bear
ADVERTISING DIRECTOR:
S. C. Lawson
ASSISTANT TO THE PUBLISHER:
John Fistere

Editorial

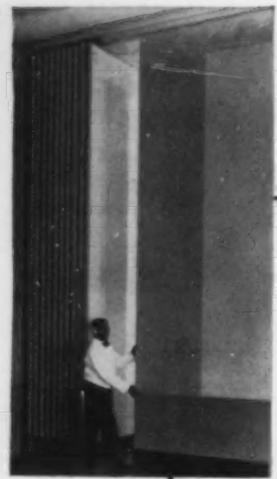
# Good looks abroad –why not here?

Last month visitors to the galleries of the New York Architectural League were treated to an exhibit of some of the finest American architectural products built in years: the imaginative and vigorous new U.S. embassies, consulates, and other diplomatic buildings that are going up in growing numbers overseas (for a sampling, see page 70 and the Dec. 1957 FORUM). Praise for the buildings ran high; LIFE editorially commended the State Department for the work of its Office of Foreign Buildings (FBO), and FORUM awarded citations to FBO's architectural advisory committee (see People, page 63).

All in all, it was a happy occasion for U. S. architecture, but it raised an old, nagging question that has grown too big to remain unanswered much longer. *Why can't American architects and the U.S. government, working together, produce as fine architecture at home as they have overseas?*

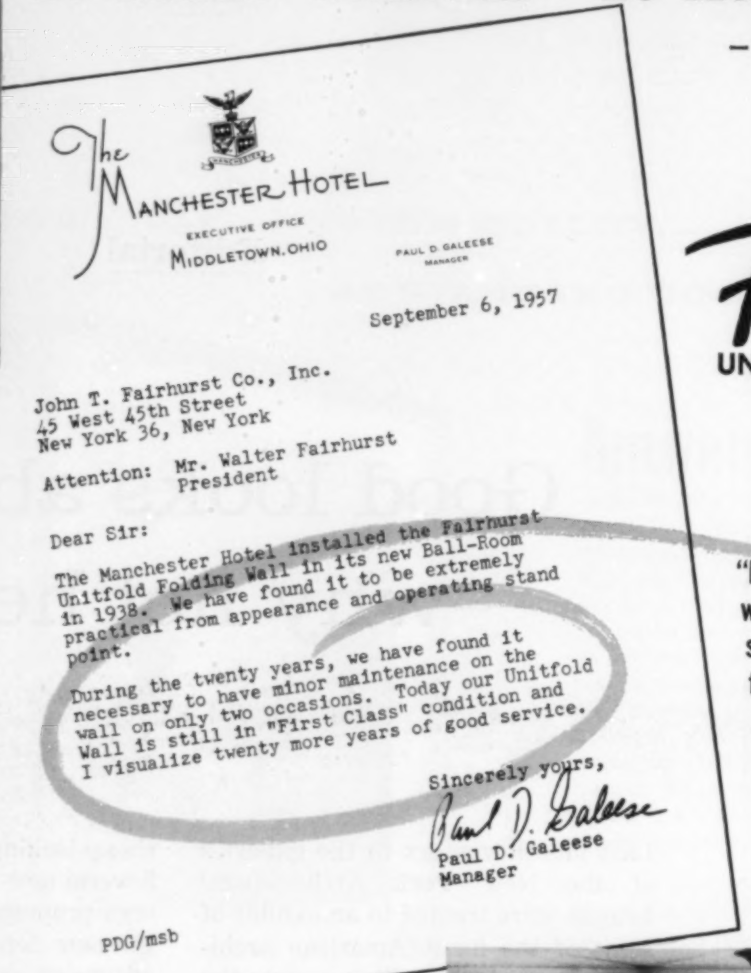
The sad fact facing the American public every day is that most of its "modern" federal architecture—and nearly all state, county, and municipal architecture — is uninspired, cheap-looking, or just plain ugly. Several new government office buildings proposed for Washington (e.g., the new Senate office building) constitute an architecture of pure habit and timidity, a stripped-down version of the neoclassic that no longer expresses what America is all about. Other recently built government structures, especially those out of Washington, are merely shallow, glittering imitations of commercial building fronts now in vogue. With the exception of a few "special" projects, such as the new Air Force Academy in Colorado and an occasional fine civic building, the offices, court houses, post offices, warehouses, archives, and military installations that continue to go up around the country are hardly the kinds of architecture to symbolize the aspirations of the world's leading democracy or, indeed, to kindle any enthusiasm or respect for the law or government itself.

Perhaps one long-range reason for the deplorable state of civic architecture today is that the generation of educated gentlemen who so carefully shaped the Republic's early architecture in the classic forms, that



# 20 YEARS' SERVICE — 20 MORE TO GO!

— in Middletown, Ohio



The Manchester Hotel
EXECUTIVE OFFICE
MIDDLETOWN, OHIO

PAUL D. GALEESE
MANAGER

September 6, 1957

John T. Fairhurst Co., Inc.
45 West 45th Street
New York 36, New York

Attention: Mr. Walter Fairhurst
President

Dear Sir:

The Manchester Hotel installed the Fairhurst Unitfold Folding Wall in its new Ball-Room in 1938. We have found it to be extremely practical from appearance and operating stand point.

During the twenty years, we have found it necessary to have minor maintenance on the wall on only two occasions. Today our Unitfold Wall is still in "First Class" condition and I visualize twenty more years of good service.

Sincerely yours,

Paul D. Galeese

Paul D. Galeese
Manager

PDG/msb

**Fairhurst**
T.M. Reg.

**UNITFOLD® FOLDING WALL**

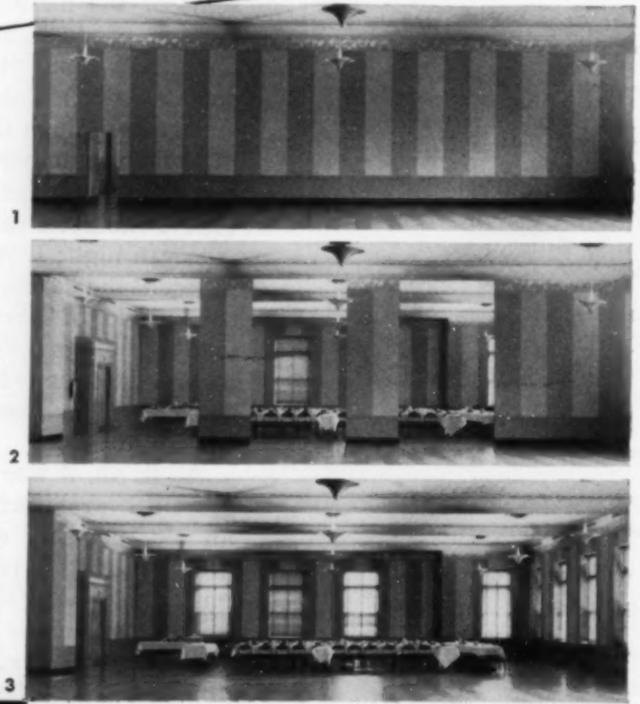
**"During the twenty years, we have found it necessary to have minor maintenance . . . on only two occasions . . . I visualize twenty more years of good service."**

**Rugged Durability — the 'extra touch' found in all Fairhurst construction. Here is a folding wall designed for both maximum flexibility of room use and long life.**

**Each unit is a separate, rigid panel. Together they form a solid divider, with every feature and appearance of a permanent wall with the single exception of load-bearing strength. Quick manual operation re-converts the room area for large groups as needed. Compare these exclusive Fairhurst features —**

- **Highest sound retardance of any movable wall — equal to a 10" to 12" fully plastered solid brick wall.**
- **Simple operation: Walls up to 25' high easily placed by one man without need for costly cables or wiring.**
- **Odd or even number of units may be used; walls can pass within 1" of existing pillars or columns.**
- **Walls stack in minimum space — with or without concealing pocket.**
- **May be finished in any material or color to blend with decor.**

**Write Dept. AF for free illustrated booklet**



**(1) Unitfold Wall, equipped with pass door, creates 2 rooms in ballroom area. (2) View shows wall units partially in place. (3) Complete area now used as one room — Units stacked inconspicuously at left. Inset at top shows ease of folding & stacking.**

**John T. Fairhurst Co., Inc.**
45 West 45th Street New York 36, N. Y.
*FAIRHURST . . . First Name in Folding Walls*

## Editorial *cont'd.*

to them bespoke both dignity and democracy, have long since yielded place to a bureaucracy of not always very learned representatives of the people. To these men—and many of their constituents — the idea of beauty in government buildings has, through some peculiar twist of economic logic, come to be erroneously identified with waste. Ordinary government buildings cost enough, the theory goes; beautiful ones might well cost still more.

A more immediate reason for the present mediocrity of government buildings is the way they come into being these days. The methods by which an architect is chosen for a government job — in Washington D. C. or Walla Walla Wash.—is a process of elaborate outward fairness, often mixed with elaborate inner expediency, patronage, and pressure. What suffers first—and most—is quality.

Not so many years ago, the State Department was just as guilty of promoting bad architecture as were other government agencies, but foreign criticism, coupled with a broadening concept of America's world role, led State to adopt a new approach. What distinguishes the Foreign Buildings operation is that State no longer relies solely on its own amateur judgment in choosing its architects but calls in a committee of eminent architects, who are appointed through the AIA. The committee works with two of State's top men. Congressmen, usually to their own great relief, are told that political favors just aren't part of the ground rules. Architects are now selected for State Department projects purely on the basis of merit. They are carefully instructed in the aims of FBO's program, and then they are set free to use their talents without impediment. The advisory committee draws on its own professional skill to criticize the designs and to recommend revisions.

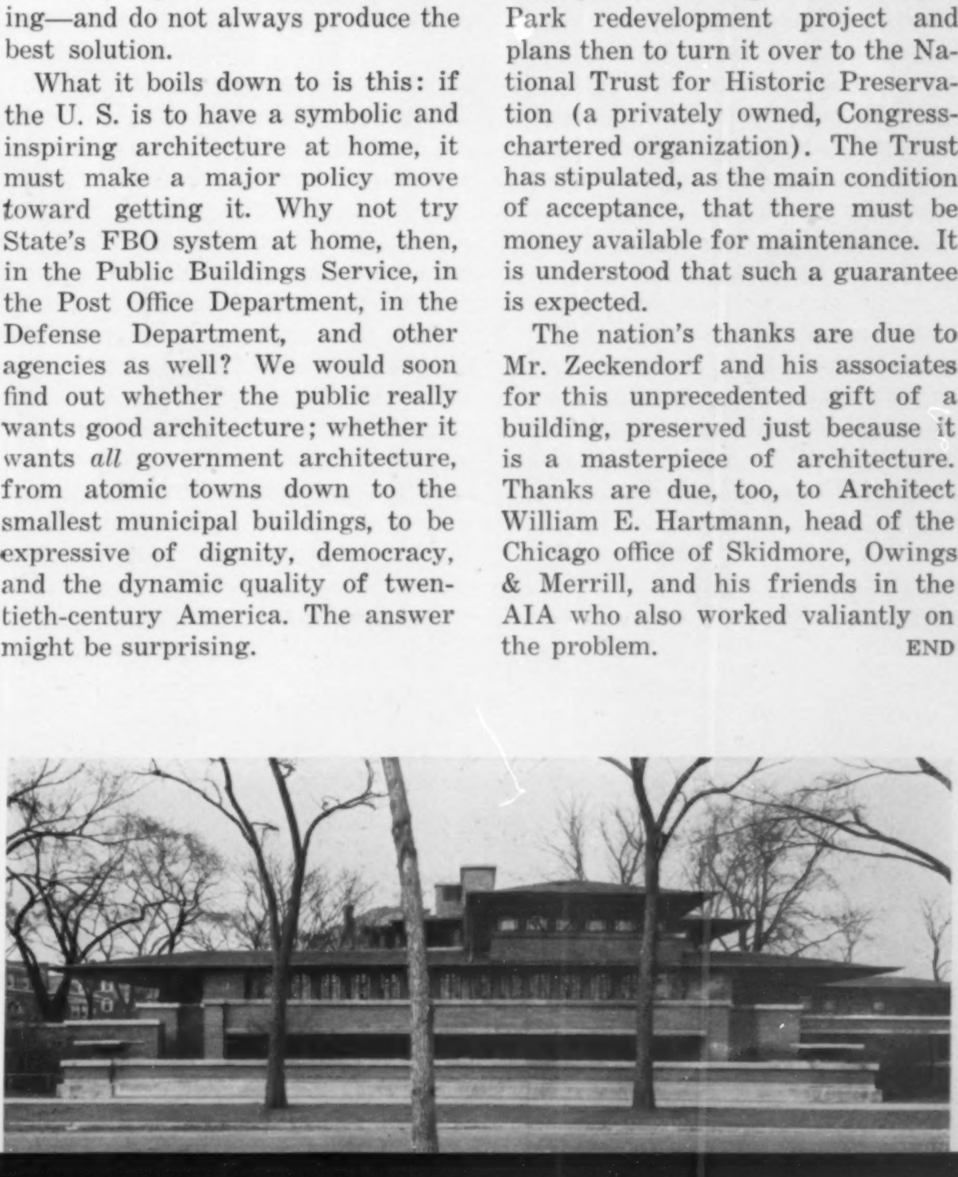
So far, this system is the only one that has consistently produced a high standard of official architecture. Art commissions, such as the one that is supposed to guide Washington's architecture, may be composed of the most distinguished architects available, but they are limited at best to preventing the most horrid errors, and they are without power to initiate ideas or to follow them through. Design competitions are another oft-suggested device for assuring high architectural standards, but for the great run of buildings they are too cumbersome, expensive, and embarrassing—and do not always produce the best solution.

What it boils down to is this: if the U. S. is to have a symbolic and inspiring architecture at home, it must make a major policy move toward getting it. Why not try State's FBO system at home, then, in the Public Buildings Service, in the Post Office Department, in the Defense Department, and other agencies as well? We would soon find out whether the public really wants good architecture; whether it wants *all* government architecture, from atomic towns down to the smallest municipal buildings, to be expressive of dignity, democracy, and the dynamic quality of twentieth-century America. The answer might be surprising.

## A famous house rescued

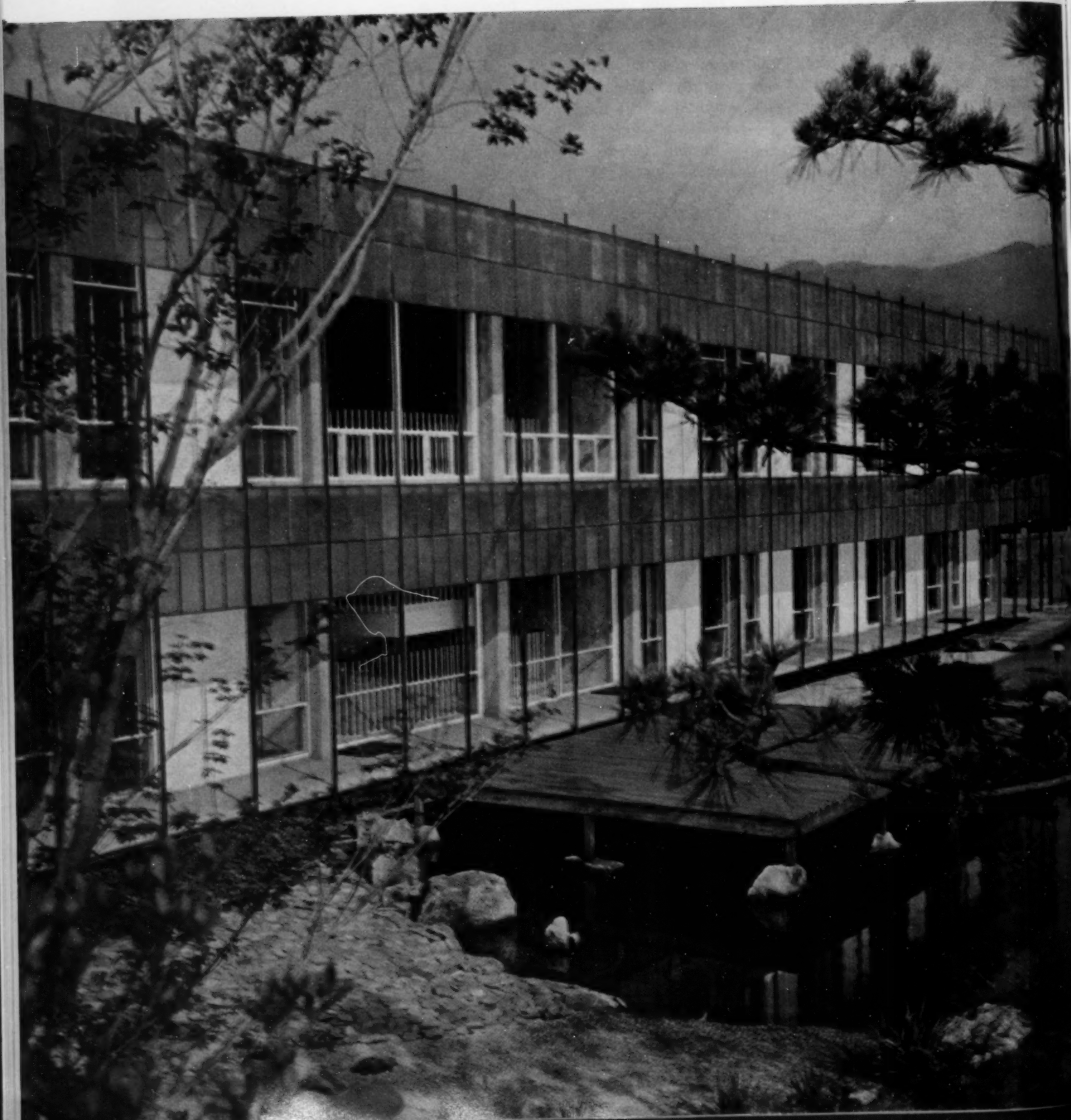
Chicago newspapers within recent weeks divulged a cheering story. The Robie House in Chicago, Frank Lloyd Wright's 1908 masterpiece, is to be saved from demolition. Webb & Knapp, the realty company headed by William Zeckendorf, has offered to purchase it for $125,000. If the plan goes through, the Chicago Theological Seminary, the present owner, will carry out its building program elsewhere. Webb & Knapp plans to use the house as headquarters during the three years the firm anticipates working on the Hyde Park redevelopment project and plans then to turn it over to the National Trust for Historic Preservation (a privately owned, Congress-chartered organization). The Trust has stipulated, as the main condition of acceptance, that there must be money available for maintenance. It is understood that such a guarantee is expected.

The nation's thanks are due to Mr. Zeckendorf and his associates for this unprecedented gift of a building, preserved just because it is a masterpiece of architecture. Thanks are due, too, to Architect William E. Hartmann, head of the Chicago office of Skidmore, Owings & Merrill, and his friends in the AIA who also worked valiantly on the problem. END



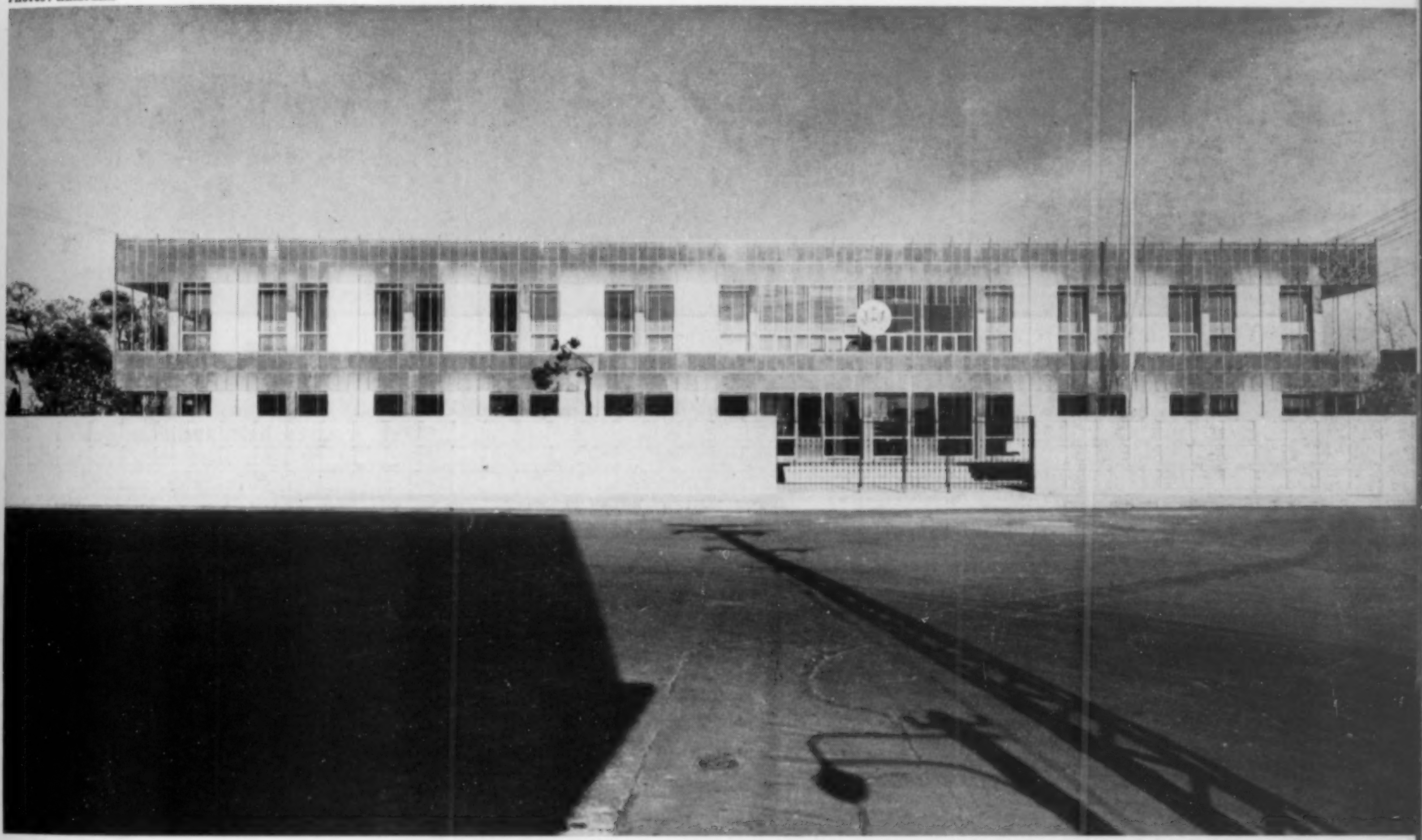
# A handsome outpost in Japan

JOHN LAUNOIS—BLACK STAR



In the new American Consulate in Kobe, the problem of "official" architecture is handled with freshness and tact. The solution: light, modern pavilions and delicate patterns, in a lovely native garden.

PHOTOS: HIRAYAMA

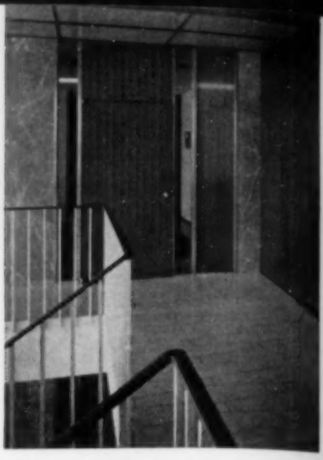


**Delicate bands** of glass-fiber plastic in a bronze gridwork adapt traditional *shoji* screens to a new outdoor use, helping to shade the air-conditioned office building (seen here on the garden side).

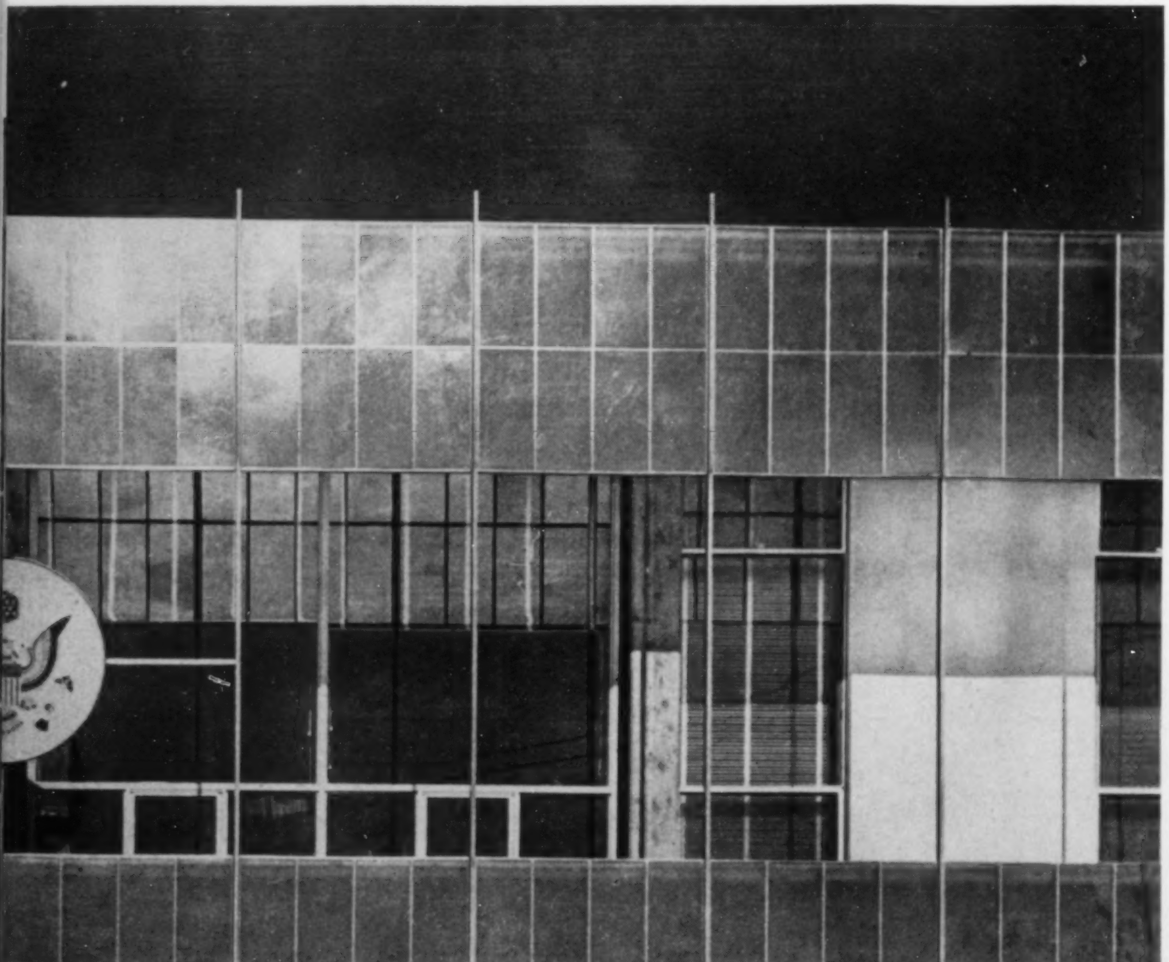
Standing quietly in bustling downtown Kobe, Japan, this new American Consulate by Detroit Architect Minoru Yamasaki and his associates looks more like an inviting garden pavilion than an official office building. In the manner of fine old Japanese temples, it is raised slightly off the ground, setting it above dampness and a little apart from humbler neighbors. Around a rhythmic façade of simple wall panels and openings, the floors are extended outward like trellised galleries, shaded by bands of plastic panels.

The new consulate and its staff buildings and gardens were completed in Dec. 1956 at a cost of $428,000. Less subtly designed, they might have been a copy of Japanese design. Or, as happens at home, they might have been a grim stone image of Washington neoclassic (see Editorial, page 67). Fortunately, however, it has not been the State Department's policy in recent years to ask for the bizarre, the fashionable —or the very conventional. Instead, State now requires of architects only a serious study of climate, culture, and local materials, and sets them free to design. The delightful building on these pages is one reward of that enlightened policy.

UNITED STATES CONSULATE, Kobe, Japan
ARCHITECTS AND ENGINEERS: Yamasaki, Leinweber & Associates
STRUCTURAL ENGINEER: Yoshikatsu Tsuboi
LANDSCAPE ARCHITECT: Ken Nakajima
GENERAL CONTRACTOR: Ohbayashi-Gumi Ltd.



**Office** of the consul general has its entrance flanked by narrow glass panels set in the gleaming marble walls.



→

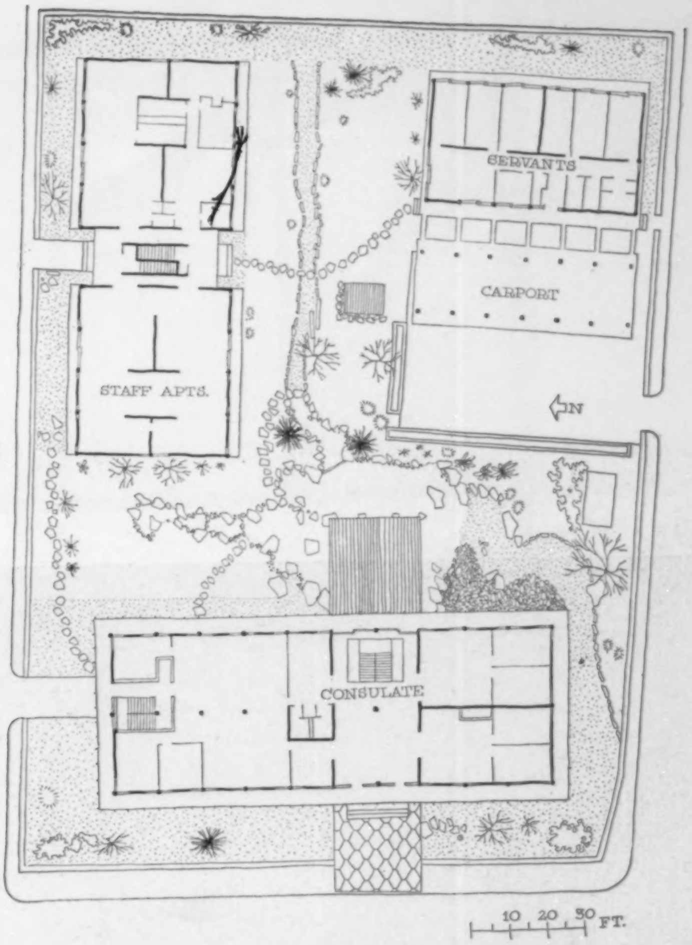
**Slim stairs** at the rear of the main entrance hall echo the fine-lined patterns of the building's exterior.

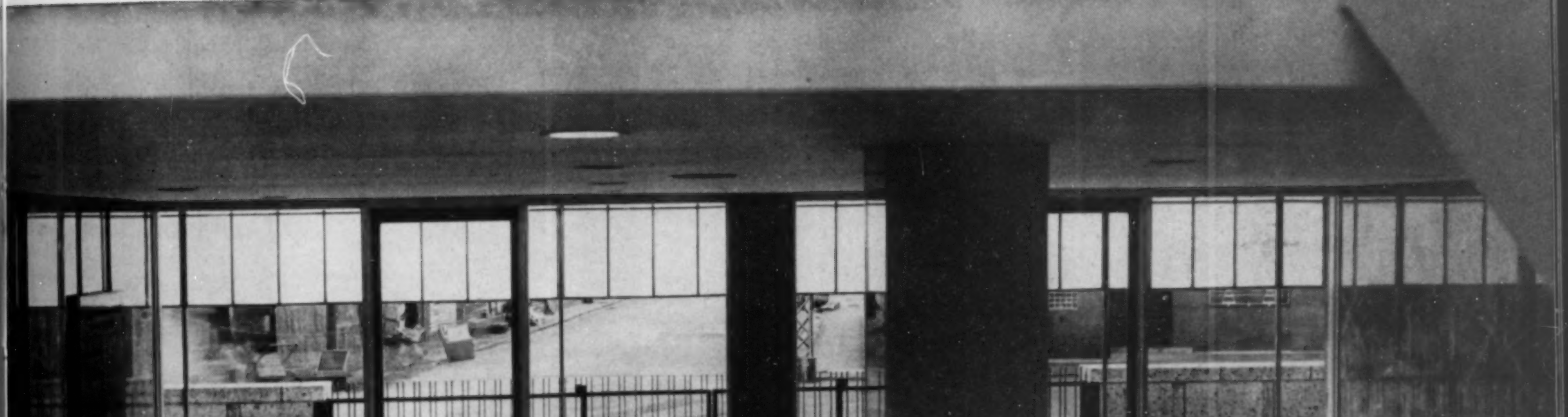
←

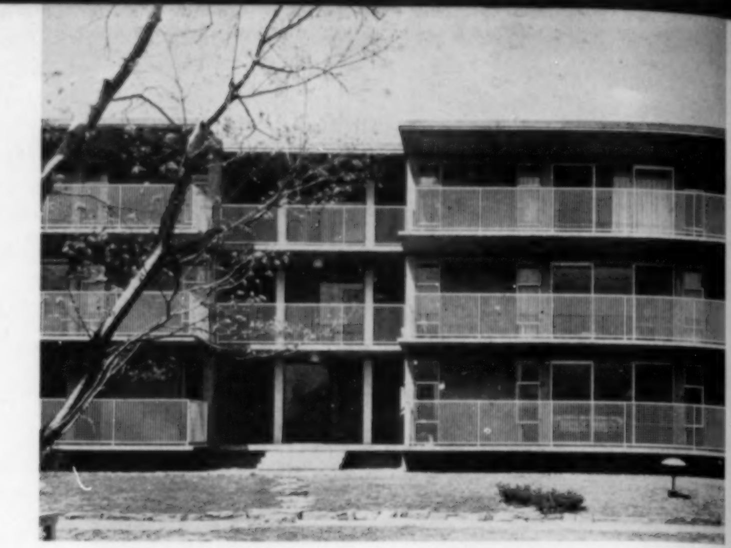
**Translucence** of glass and plastic gives the main entrance a light, luminous quality. The white solid wall panels stiffen the building against earthquake and incorporate flat air-conditioning ducts, allowing the exposed concrete columns to be slimmer. The light iron gate repeats some of the building's line patterns.

→

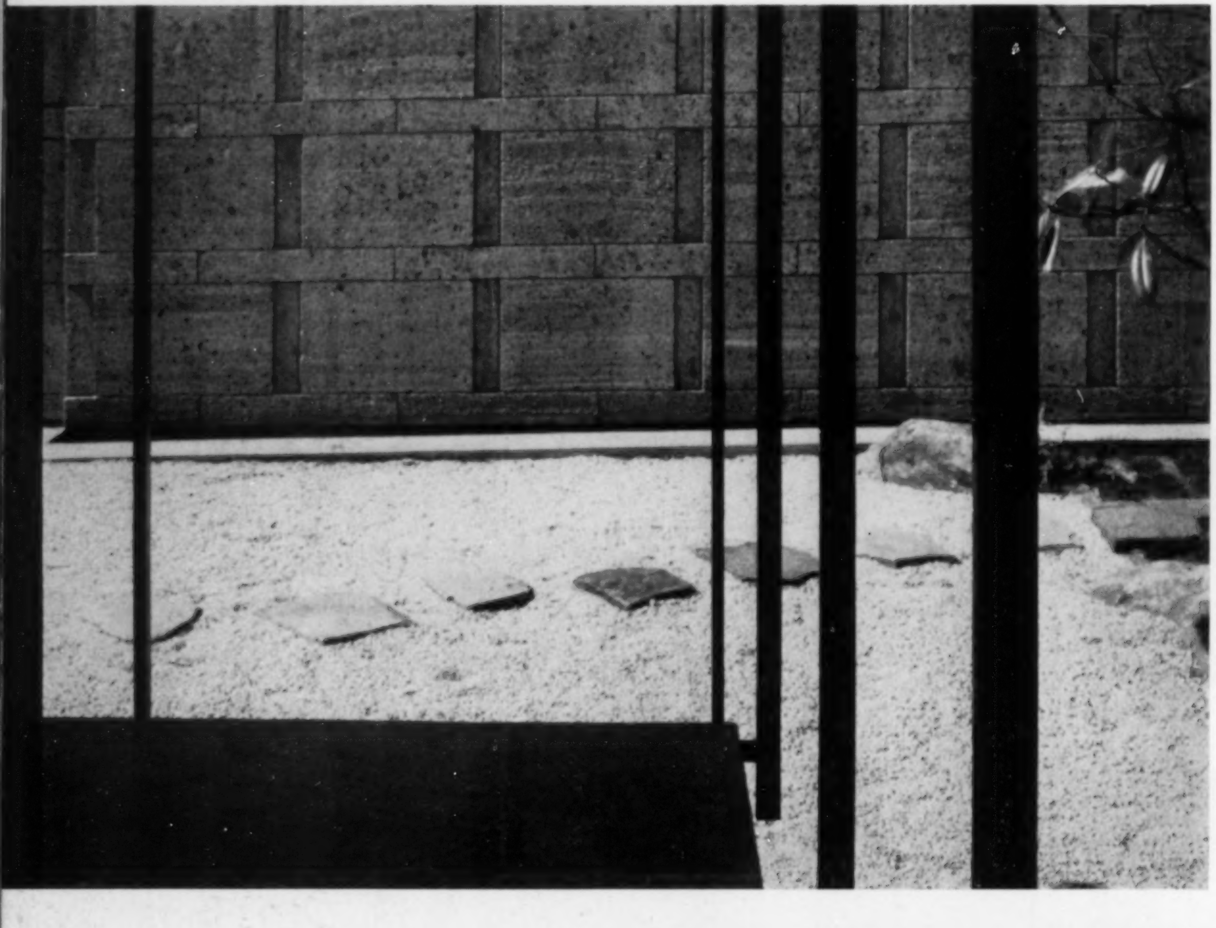
**Entrance hall:** a polished terrazzo floor leads in from the entrance walk, introducing a contrasting lozenge pattern of bronze stripping. Outside, the plastic sun screens can be seen below the overhanging second floor. The consular section is to the left, economics and information offices to the right.


SERVANTS
STAFF APTS.
CARPORT
N
CONSULATE
10 20 30 FT.





**Balconies** give families in the ten staff apartments behind the office building a view of the consulate's inner garden.



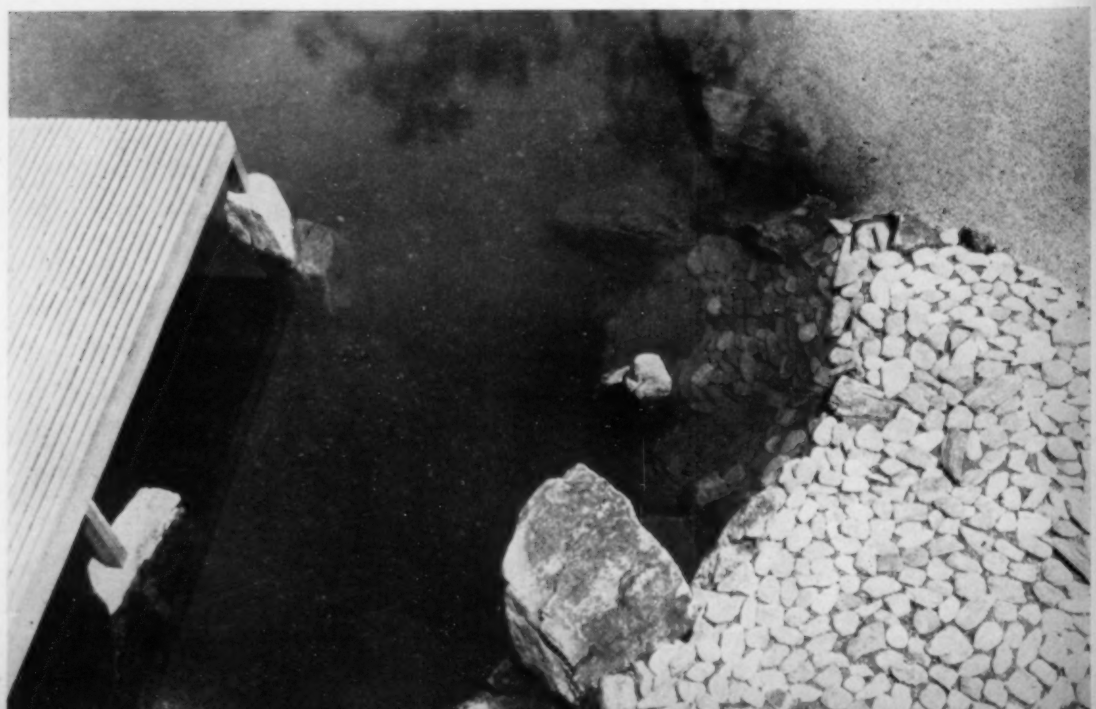
←

**Patterned wall** of lava stone is pleasing to the eye but discouraging to prowlers. With rubber-edged panels set in gateways, the wall also becomes a dike against floods.

→

**Openness,** simplicity, line, and pattern—America bows to its host. This view is from the consulate office building, across an open porch to the garden and apartments beyond.

**Patterned stones** and gravel around a pool add subtle textures to the light, crisp buildings and their setting.



# The city: economic problem No. 1

**According to six distinguished experts, the knottiest economic problem confronting the U.S. is that baffling institution, the city.**

*The privately financed Committee for Economic Development recently invited 50 leading economists and public leaders of the Free World to answer an evocative question: "What is the most important economic problem to be faced by the U.S. in the next 20 years?" As might be expected, a large proportion of the experts cited such cosmic crushers as "aid to underdeveloped countries" and "inflation" as the most nettlesome questions. (Significantly, no one was worried about a serious recession.) But the answers of six of the experts should be of particular interest to architects and all others interested in civic planning. For these six distinguished experts were concerned above all else with the economic problems of the city and its surrounding hinterland. Urbanization, congestion, location, renewal, the metropolitan area—these were the key words in their essays, which are briefly excerpted below:*

**Albert Hart**
*Columbia University*

My candidate for "the" problem of the coming decades is the well-known but underrated evil of congestion. The root of the difficulty is what economic theorists call the "neighborhood effect" of actions that make perfectly good sense from the actors' private standpoint. The nuisances of noise, dirt, air pollution, crowding, destruction of recreation areas, parking mess, loss of time in traffic, dilution of education, deterioration of water supply are all examples in this field.

LOIS MURKLAND

ALBERT HART

Taken one at a time, these problems look impossible to solve largely because they are responsibilities of local government and work on so large a scale that it would take an unattainable level of intergovernment cooperation to handle them. The trouble is that they interact. The measures we take to handle one problem often pre-empt sites in a way that presently blocks the solution of another.

Despite generations of talk, there is no example of an adjustment of state boundaries to improve the distribution of governmental responsibilities; municipal boundaries seem more and more to be frozen; and effective intergovernmental authorities remain rare and in most cases underfinanced.

Looked at in the large, congestion adds up to a major problem. It calls upon us to evolve democratically workable programs for population control, for control of land use going far beyond anything we have seen, for extending the time-horizon and perceptive depth of private and governmental foresight, and for reforming government finance without accentuating centralization.

**Barbara Ward Jackson**
*The London Economist*

Every assessment of America's future economic problems will presumably begin with the most dynamic factor in the American community—the bounding birth rate. It is now a conservative estimate to expect a population of some 220 millions by 1975. If the three- and four-child family becomes the pattern of the future, the estimate should be considerably higher.

In any normal, responsible family

the arrival of more children leads to a change in habits of spending. More money will be set aside for education, for health, for insurance, for housing. Parents cut down some less essential expenditure—smoking, perhaps, or drinking—or postpone desirable purchases — new drapes or a new automobile.

AP

BARBARA WARD JACKSON

When, in the great family that is the nation, a multitude of new babies pours into the community, it would not be unreasonable to expect something of the same kind of shift in spending. Housing, health, education—these would claim more of the national income than would a wide range of consumer goods.

This reasonable assumption is, however, a little complicated by the fact that some of the higher expenditures made necessary by America's growing population come out of the public purse. The millions of new houses that will have to be built, when the babies born in the great upsurge of population in the early 1940's begin to marry and form their own homes, will be financed mainly by the families themselves. But the streets, the water supplies, the sanitation, the urban and suburban amenities, the police and fire protection, which help to turn four walls and a roof into a functioning unit in a civilized community, must all come from tax money. Most medical bills and insurance payments will be privately financed, but much more public money will be needed for hospital building and for various forms of preventive medical services. Education, by the fundamental decision to provide all Americans with a free birthright of learning, must to an overwhelming degree come from public funds.

Can one make any estimate of the scale of need for social capital in the coming decades? The survey published by the Twentieth Century Fund in 1955 attempted a comprehensive assessment and carried its forecasts to 1960. Its conclusion was that in virtually every field of publicly financed community need, there would be deficits in the 1960's. In terms of the 1950 dollar, these would run at the level of over $5 billion a year in education, over $1 billion for health and hospitals, nearly $1 billion for the preservation of natural resources, over $500 million for sanitation and water supply, and another $500 million for police, fire protection, and postal services. But these figures leave out another urgent social need—to bring American housing, with nearly 2 million substandard units, up to a reasonable level.

A domestic program ready prepared for schools, hospitals, transportation, and urban redevelopment is the logical accompaniment of all serious attempts at disarmament. But the program itself involves political, not economic decisions. If tomorrow's citizens believed education to be as essential to national survival as are today's weapons of defense, there would be no fear of a shortfall either in social capital or in high levels of employment. But democracy, in America or elsewhere, has not yet reached such a decision.

**Luther Gulick**
*Institute of Public Administration*

In the 12 years since the end of World War II, the U.S. has experienced one of its most spectacular periods of economic development.

Yet at the moment we find ourselves confronted with an evil that threatens to throttle a large part of our business activity and to rob us of the fruits of our ever advancing technology. That is the stagnation and dry rot that has attacked the great metropolitan centers of our country.

Just what is this "metropolitan problem"? It is the discontent of millions of human beings. It is a vast and growing dissatisfaction with life in and around the great cities. People are not satisfied with their homes and housing, with their trip to and from work, and with the aggravation, costs, and delays of traffic and parking. They are distraught by the lack of schools and recreational facilities for their children and themselves, and they are concerned by social pressures, neighborhood conditions, youthful delinquency, and crime. People find shopping difficult and more regimented, and the ever more needed services hard to get and expensive. They struggle with water shortages, with bad drainage and sewer conditions, with dirt and noise which they don't like. They find the city centers "old style," inconvenient, dismal, and repulsive, and the old buses, streetcars, trains, and other methods of mass movement uncomfortable and slow, even though they are cheap in comparison with rising wages. And when people move to the suburbs and take work in a new suburban factory, store, or other enterprise, they find that many of the evils

FERDINAND VOGEL

LUTHER GULICK

they sought to escape move in right after them, with mounting taxes to plague them there too. It all adds up to the greatest American domestic problem, the "problem of the metropolitan region."

The breakdown of local government in the metropolitan area comes straight out of bad political engineering and nothing else. There has been a sudden change in the governmental needs and the effective demands of human beings living in the new-patterned metropolitan complexes. The structure of city government, political and administrative, was never designed or evolved to meet these new needs. For many of the requirements there is no machinery at all; for others there was a system, but that system is now sadly inadequate and obsolete, and the effort of inadequate jurisdictions to deal with the problems that have grown beyond them results in awkward arrangements, makeshifts, frustrations, and failure.

The reason for the breakdown of local government in the metropolitan regions is found in four facts:

1. *A governmental vacuum*—many of the things that now need doing for the people who live in the metropolitan area have never been assigned to or undertaken as a task by any government, federal, state, or local.
2. *Fractionalization of assigned duties*—many local services and controls have coalesced while governmental jurisdictions have remained as they were. Thus each has but a fraction of a now unified problem to handle.
3. *Political imbalance*—produced by population and economic movements with respect to inflexible boundaries, which leave many a governmental unit with an unbalanced population and a truncated economy, neither of which is equal to the governmental activities now required.
4. *The lack of clearheaded and courageous political leadership and a recognition that we face a metropolitan problem*—due in large measure to ignorance, jurisdictional fractionalization, and political imbalance.

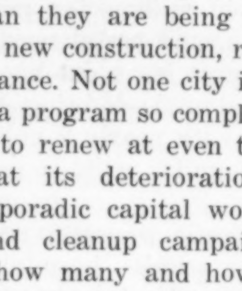
No governmental body, for example, has been given the broad job of seeing to it that the metropolitan region as a whole is given a decent, effective, and economical total system of transportation. We live and snarl in a governmental vacuum.

Government is now falling down on its part of the job. It is falling down because the major tasks are not now assigned to any level of government, and those tasks which are partly assigned are split up into undoable fractions among jurisdictions that are politically and economically incapable of functioning as to these problems. Set up as we now are, we cannot even develop the political responsibility or leadership called for.

**Reginald Isaacs**
*Harvard University*

Despite all efforts now being made by public and private enterprise, cities are deteriorating at a faster rate than they are being renewed through new construction, repair, or maintenance. Not one city is known to have a program so complete as to be able to renew at even the same rate that its deterioration takes place. Sporadic capital works projects and cleanup campaigns, no matter how many and how costly, do not necessarily add up to meaningful programs. Such programs, so frequently fragmental, expedient, and opportunistic, are fractional in terms of needed urban treatment.

FABIAN BACHRACH



REGINALD ISAACS

Depending on condition and market, the costs of rehabilitation and conservation of residential areas are within a range of $15 million to $100

*continued on page 168*

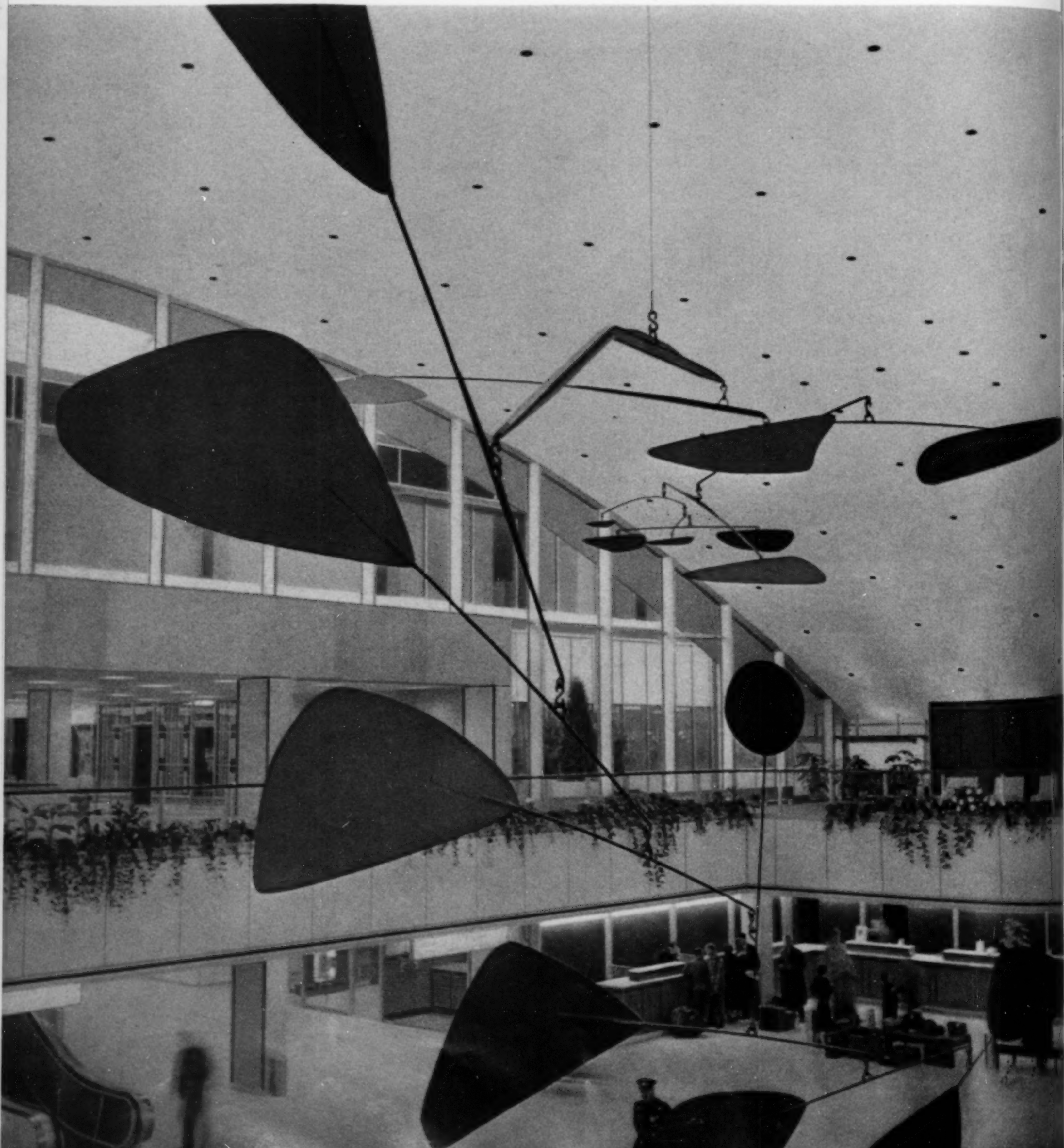
A nine-page report on Idlewild

# New aerial gateway to America

JOHN ROSS

Fifteen years and $235 million went into building the world's greatest airport, while harried passengers used temporary shacks. Now, at last, New York opens its glittering portal to a jet-age world.

*Huge mobile by Alexander Calder hangs from the arched parabola of the arrivals hall.*



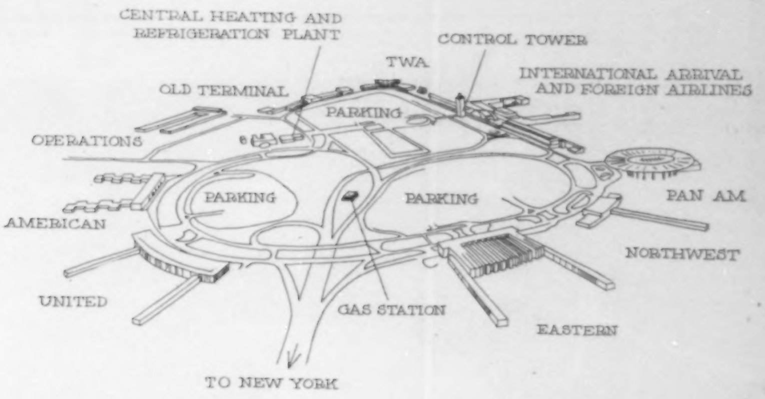
As El Al's Flight 207 wheeled to a stop between the new building's outstretched arms, passengers from Israel and from Rome, Paris, and London peered out for a close-up look at America. It was a welcome sight, and a surprise for those who had arrived at New York International Airport before. The string of shabby huts that for nearly a decade provided visitors with their first impression of the U.S. were mercifully hidden from view. Instead, the sleek, gleaming lines of a $30 million international terminal stretched wide, reflecting, appropriately, some of the space, speed, and comfort of the air age.

One pleasant change was immediately noticeable: the corridors leading in from the arrival gates to the terminal were warm, bright, and sealed against outside noise, their long perspectives softened by little tableaux that read "Welcome," "Willkommen," and "Bienvenu." Flight 207's passengers moved quickly and easily through multiple health and immigration channels. On the few occasions when they were momentarily delayed, they found colorful, friendly lounges awaiting them (even if the ash trays *were* chained to the tables), with enough places for everyone to sit down. Smiling young ladies in sky-blue uniforms guided the passengers to spacious customs halls (next page), where each traveler found his luggage waiting in racks, ready to be taken, supermarket style, to the first inspector who was free. No one had to wait in alphabetical frustration.

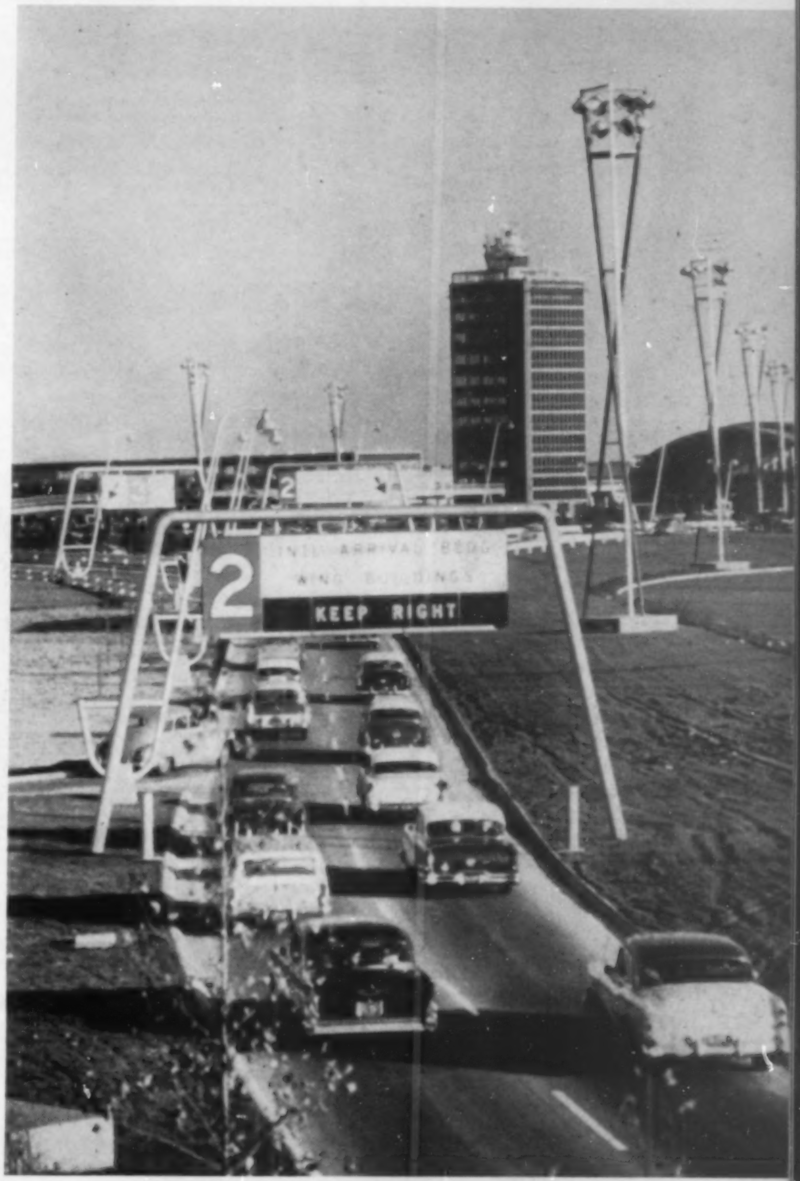
Those who were being met could see friends and relatives waving from glassed-in balconies above the customs floor. Only 14 minutes after deplaning, most of Flight 207's passengers were meeting their friends under the arch of the great arrivals hall (photo, left) and going home.

For passengers coming in from overseas, the new International Arrival Building at Idlewild seems to have passed the first test of a large, complex public facility: it is easy to get around in and is designed imaginatively enough to make the experience a pleasant one. Outside, the shapes of the big arch and the control tower, the colored fountains, and the landscaped malls help set the scene for a new kind of permanent world's fair. But meanwhile, passengers arriving and departing on domestic flights, and those departing for overseas on U.S. airlines, still are using the familiar, dilapidated temporary shacks—and they will continue to do so until the U.S. lines complete their own terminals (promised by 1959 and 1960).

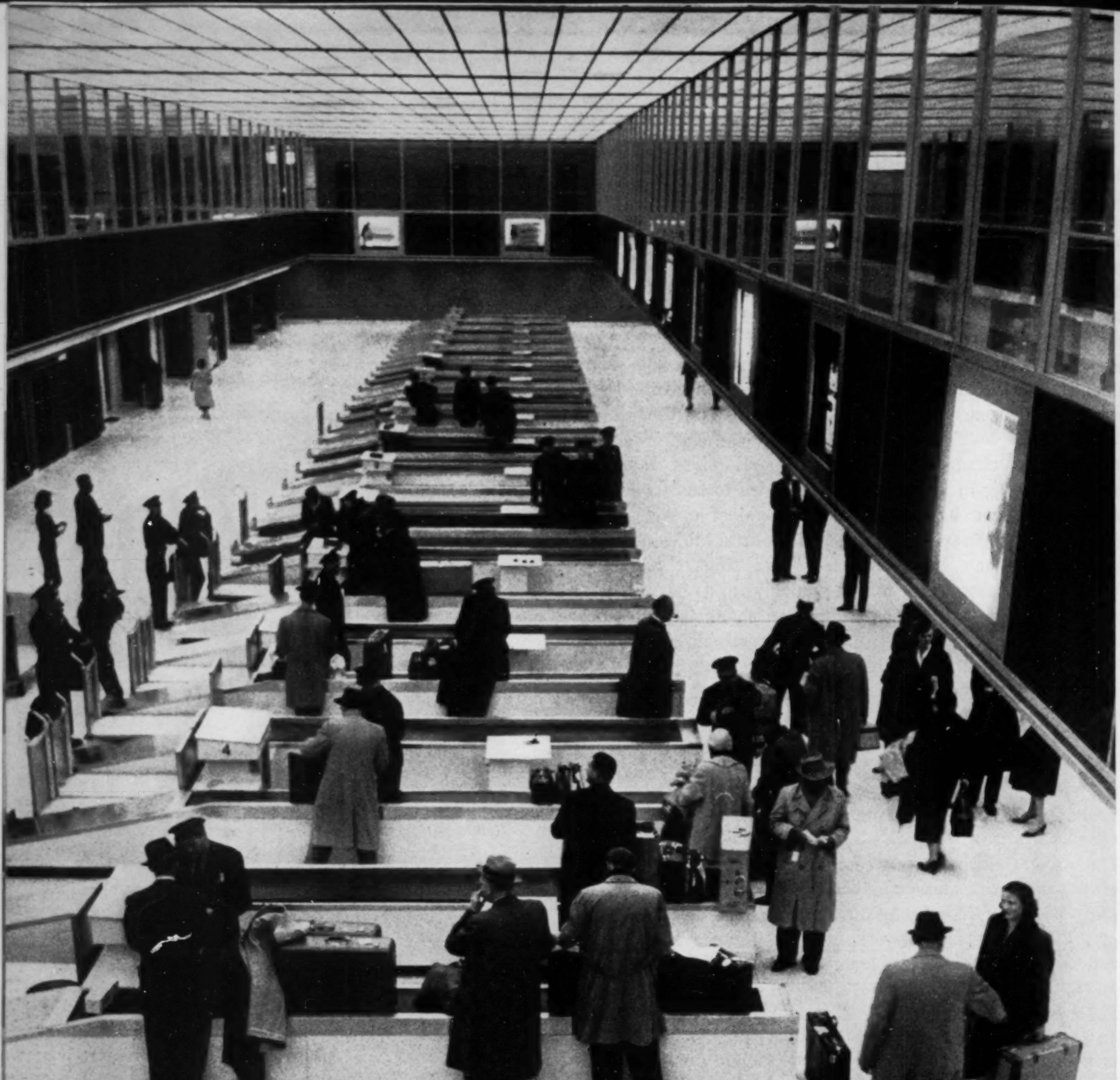
In its exuberance at finally getting its first real air terminal built, The Port of New York Authority may have done a little overfurnishing of its 655-acre patio (photo, right). And a few critics wonder how all the animated shapes of the new aerial city will hang together by the time the six terminals for U.S. airlines are finished (see sketch). But for a swelling flood of travelers and sight-seers, the important fact is that the big new airport is finally a reality.



PHOTOS: JOHN ROSS



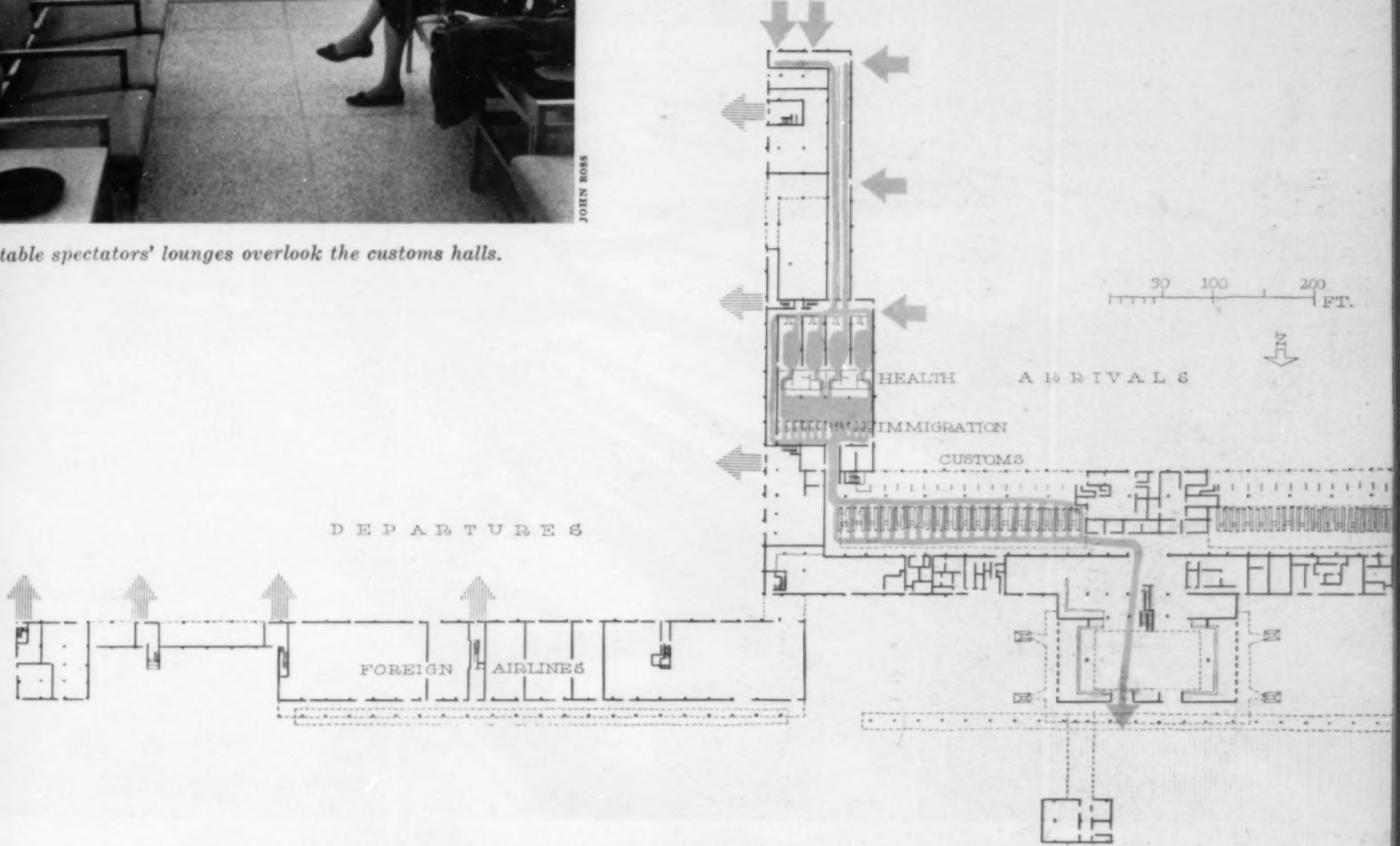
**Main approach:** view of control tower and arrivals arch is nearly obscured by a clutter of signs, high-level tripod lights, low-level gooseneck lights. Sketch at top of page shows eventual Terminal City.



DIMITRI KESSEL—LIFE

*Comfortable spectators' lounges overlook the customs halls.*

INTERNATIONAL ARRIVAL AND AIRLINE WING BUILDINGS
NEW YORK INTERNATIONAL AIRPORT, Idlewild, Queens
PLANNING AND ENGINEERING: Port of New York Authority
ARCHITECTS: Skidmore, Owings & Merrill
DESIGN CONSULTANTS: Wallace Harrison (coordinator for N.Y. International Airport);
Ann Hatfield Associates (Port Authority interiors)
GENERAL CONTRACTOR: Cauldwell-Wingate Co.



## For arrivals, a supermarket with balcony seats

Passengers coming in from any one of ten arrival gates pass through health and immigration channels and emerge into big, luminous-ceilinged customs halls, where they are escorted to baggage bins that line the side of the rooms toward the field (partial plan above shows one of the twin health-immigration-customs channels). Under their flight numbers, the inner doors of the bins are pulled up to display waiting baggage in slanted racks. Passengers may take their own bags—with the help of supermarket carts or redcaps, if they like—to customs inspectors at any one of 18 pairs of checkout counters in each hall. The inspectors operate short conveyor counters to move bags into position, depositing inspected luggage in small slanting racks, from which other porters can cart them out through the arrivals hall to cars or airline buses. Under the new passenger-handling system—which is designed not only for speed but for close scrutiny of a passenger and his baggage all the way—some flights have been getting from plane to bus in less than 15 minutes, compared with almost an hour at the old terminal.

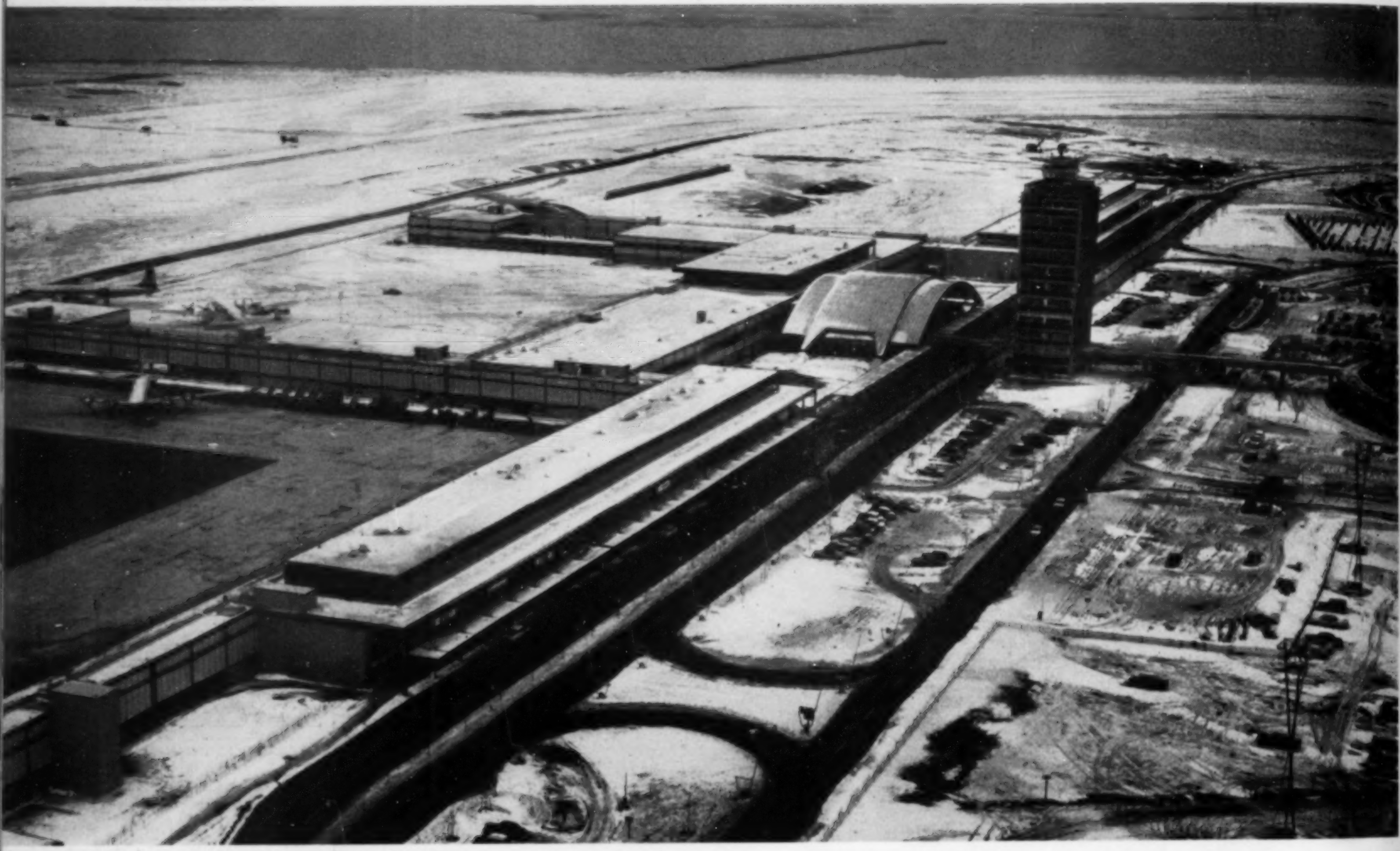
"Aunt Minnies"—friends, relatives, sight-seers who come to meet the planes—are directed from the main entrance hall up a central escalator, where they can watch the customs show from balcony lounges (photo, above) or can use the 4,000-foot observation deck, shops, and restaurants concentrated on the second and third floors, out of the incoming passengers' way. The terminal's advertising, happily, is restrained to a few light boxes across from the spectators' balconies.

# For departures, a long international cocktail

JOHN ROSS

*In Lufthansa lounge a seasoned passenger waits.*

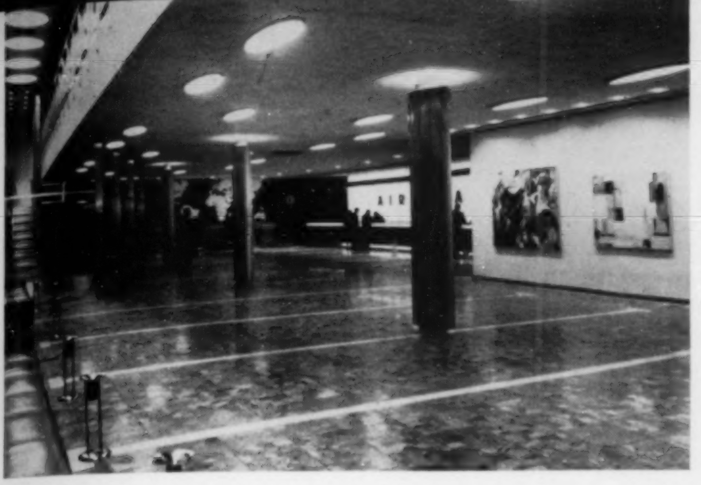
DIMITRI KESSEL—LIFE



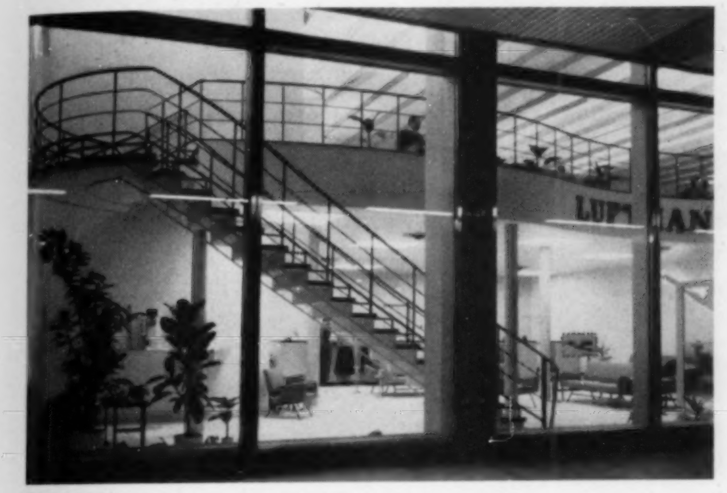
*Foreign airline wings flank the arch of the arrivals building, presenting a façade 2,300 feet, or 11 city blocks long.*

Stretching on either side of the U-shaped arrivals building and its stainless-steel-clad arch, two long wings house 14 departure "terminals" for foreign-flag airlines, leaving expansion space at the ends for a few more lines (bottom left in photo above). The foreign airlines, which rent various-sized blocks of two- or three-story space from the Port Authority, have been allowed to fit out the interiors to their own taste within a purposely strong, unifying architectural framework. The result is a bright spectrum of paintings, murals, wall sculpture, stairways, furniture, and fountain pools, competitive yet coherent—a stimulating international cocktail (see sampling of interiors on opposite page).

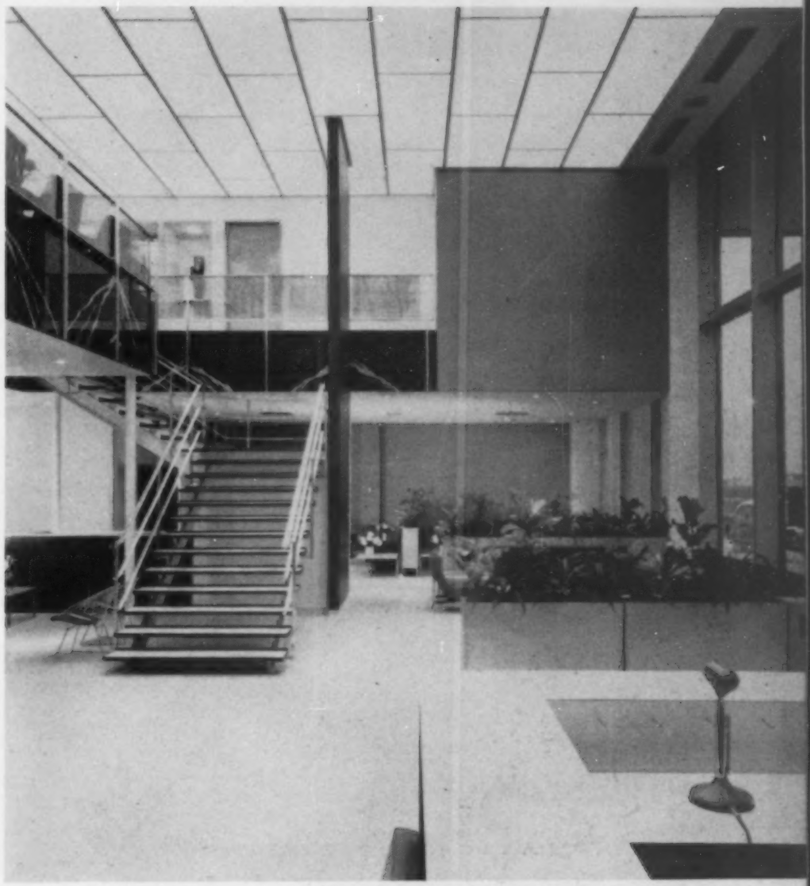
Passengers departing on any foreign airline drive directly to their own airline "terminal," check in their bags at downstairs counters and ascend to private mezzanine lounges, where most airlines have provided a cocktail corner and a snack bar. When their flight is called, passengers walk out into second-story concourses that extend along the back of the terminal. When they are opposite their plane, they descend at one of the 14 departure gates, without ever getting mixed up with incoming passengers on the lower level, or sight-seers on the upper levels of the central section. (Should direct second-story loading of passengers eventually become practicable, these concourses could be equipped with movable covered gangways.) On the terminal's third floor, foreign airlines have offices above the wings; over the center section of the arrivals building itself is The Golden Door restaurant, with a fine view of the field.



*Air France (by Itkin, Affrime & Becker).*

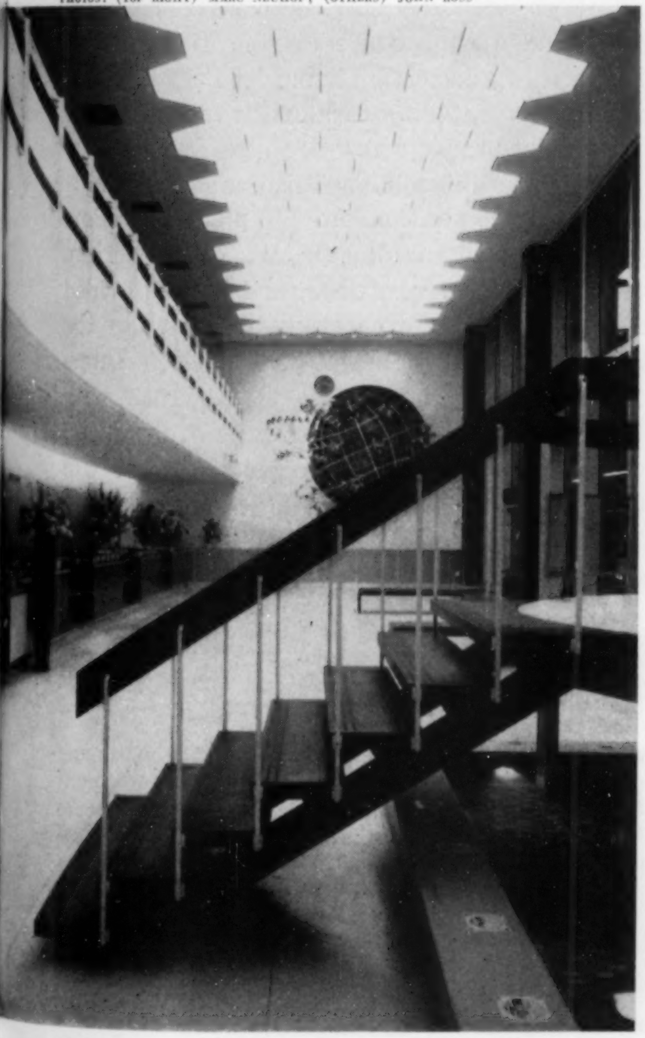


*Lufthansa (by G. B. & R. M. Ollinger).*

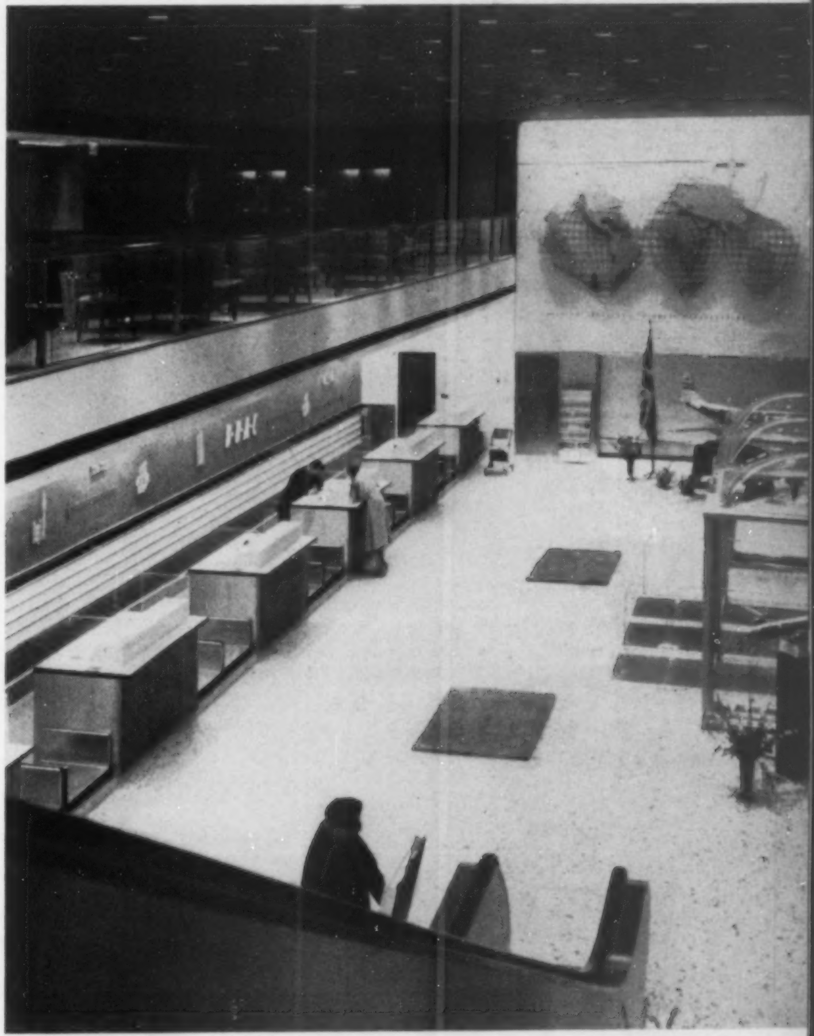


*SABENA Belgian World Airlines (by Michael Saphier Assoc.).*

PHOTOS: (TOP RIGHT) MARC NEUHOF; (OTHERS) JOHN ROSS

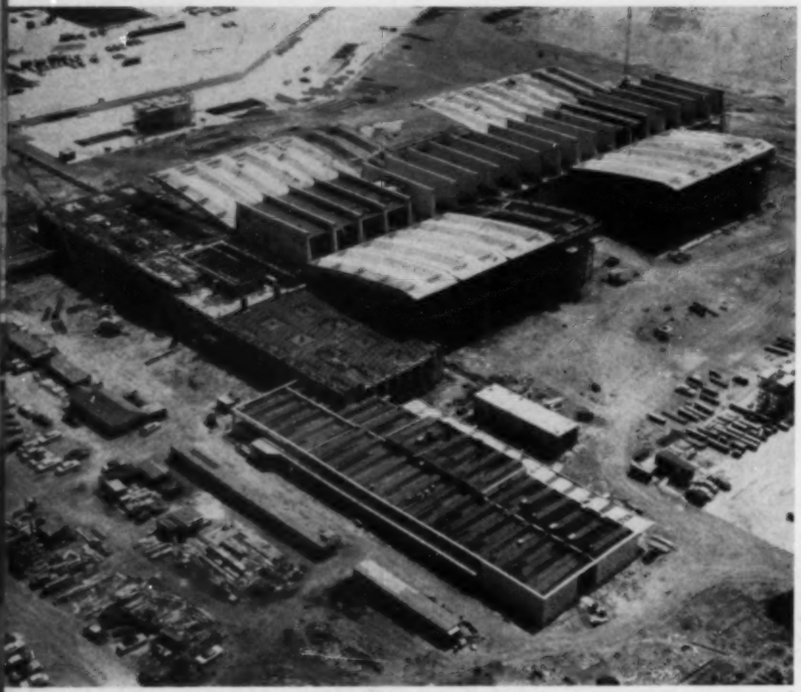


*KLM Royal Dutch Airlines (by Raymond & Rado).*



*British Overseas Airways Corp. (by LaFarge, Knox & Murphy).*

## An aerial city takes shape

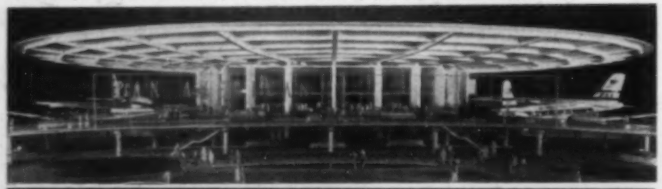


COURTESY PORT OF NEW YORK AUTHORITY

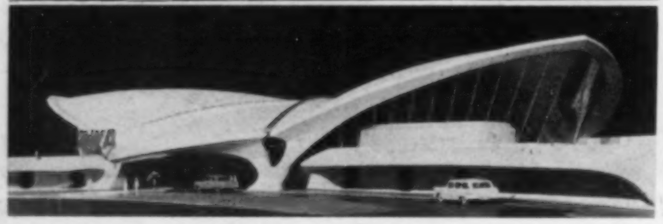
**Huge wings** of concrete, hung from cables, set off hangars building for Pan American (above) and TWA. Engineers: Ammann & Whitney.

The spanking new international terminal building, one of the largest airport buildings in the world, is only part of a still larger scheme to solve New York's air-traffic problem. The aerial city had its genesis back in 1942, when New York foresightedly started to fill in the Idlewild marshes for a big new airport, before leasing the area to the Port Authority. As air traffic through Idlewild leapfrogged up from less than 250,000 passengers a year in 1949, the first full year Idlewild was in operation (traffic was over 5 million last year), the Port Authority's chief aviation planner, Thomas Sullivan, and his staff drew up scheme after scheme, finally concluded that a single building to handle the growing traffic would have to be almost 2 miles long. Since estimates indicated that only 5 per cent of the incoming passengers were changing airlines without going into the city, the Port Authority started to work out a decentralized scheme to substitute driving for walking, and to give each big domestic airline its own terminal to design and manage, taking care of the few inter-line shuttlers in special buses (a few are already in operation). Within their $150 million Terminal City, which by 1960 will have gate positions for 140 planes, the Port Authority and design coordinator Wallace Harrison have devised 10 miles of roadways, and have provided parking space for 6,000 cars, carefully broken up by the landscaping, lagoon, and fountains of a 220-acre International Park (see map, opposite page). By 1965, with new hangars, service buildings, and a 320-room hotel going up outside the ring, Idlewild's 4,900 acres will have become a $300-million-plus aerial city, with 22,000 employees, 11 million flying customers yearly, and too many visiting "Aunt Minnies" to count. END

PHOTOS: (BELOW, LOWER PHOTO) BALTHASAR KORAB; (RIGHT) DIMITRI KESSEL—LIFE



**Pan Am's "parasol"** terminal will hold down one end of the new international terminal. Architects: Tippetts - Abbett - McCarthy-Stratton; Ives, Turano & Gardner.



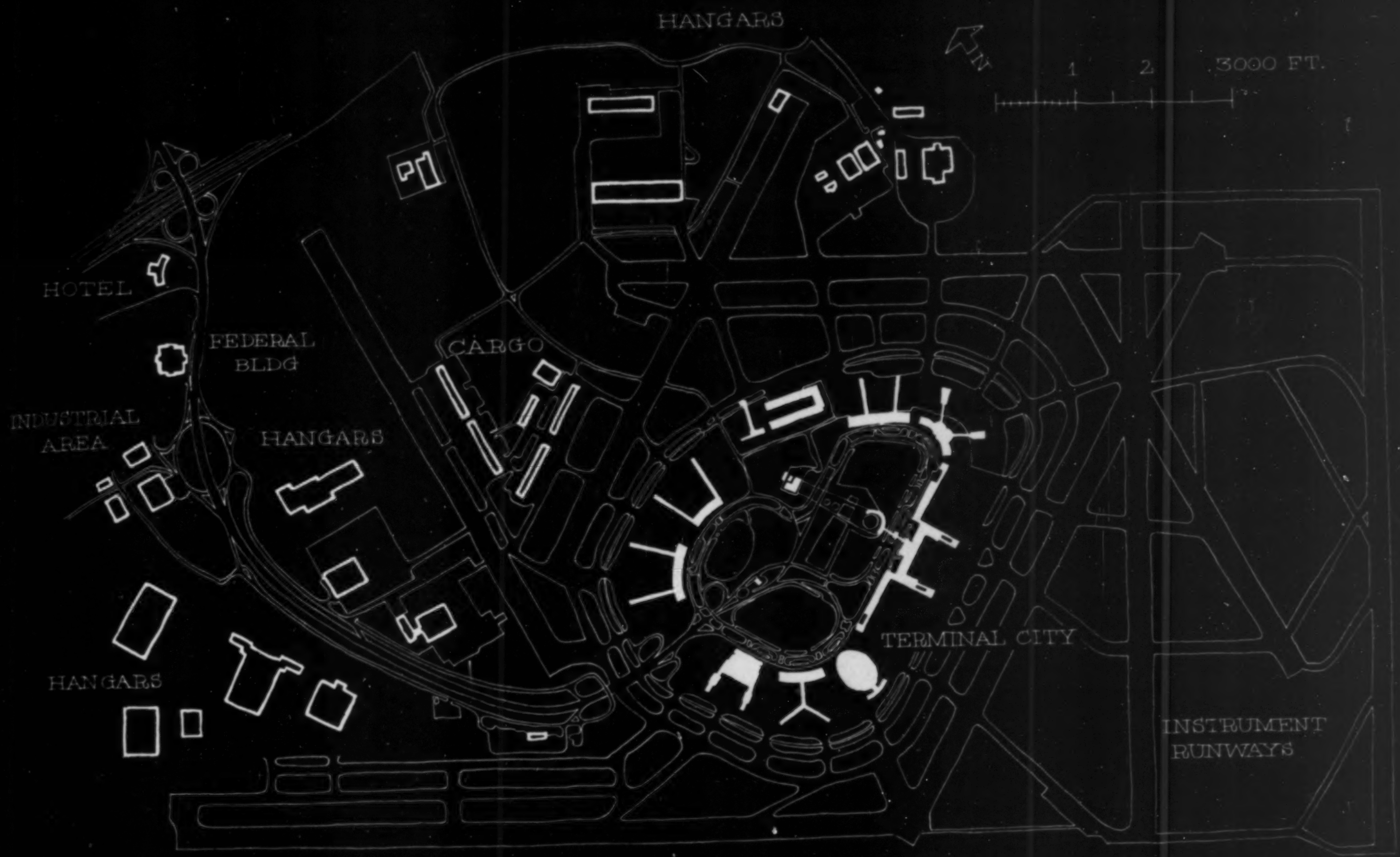
**TWA's "bird,"** designed by Eero Saarinen & Associates for the other major U.S. overseas carrier, will complete the international part of Terminal City.

→

**Liberty Fountain,** changing shape and colors on a 6-minute cycle, soars 60 feet above the central mall. Visitors ascend a ramp, which goes around the fountain and through the control tower into the upper part of the arrivals hall behind.

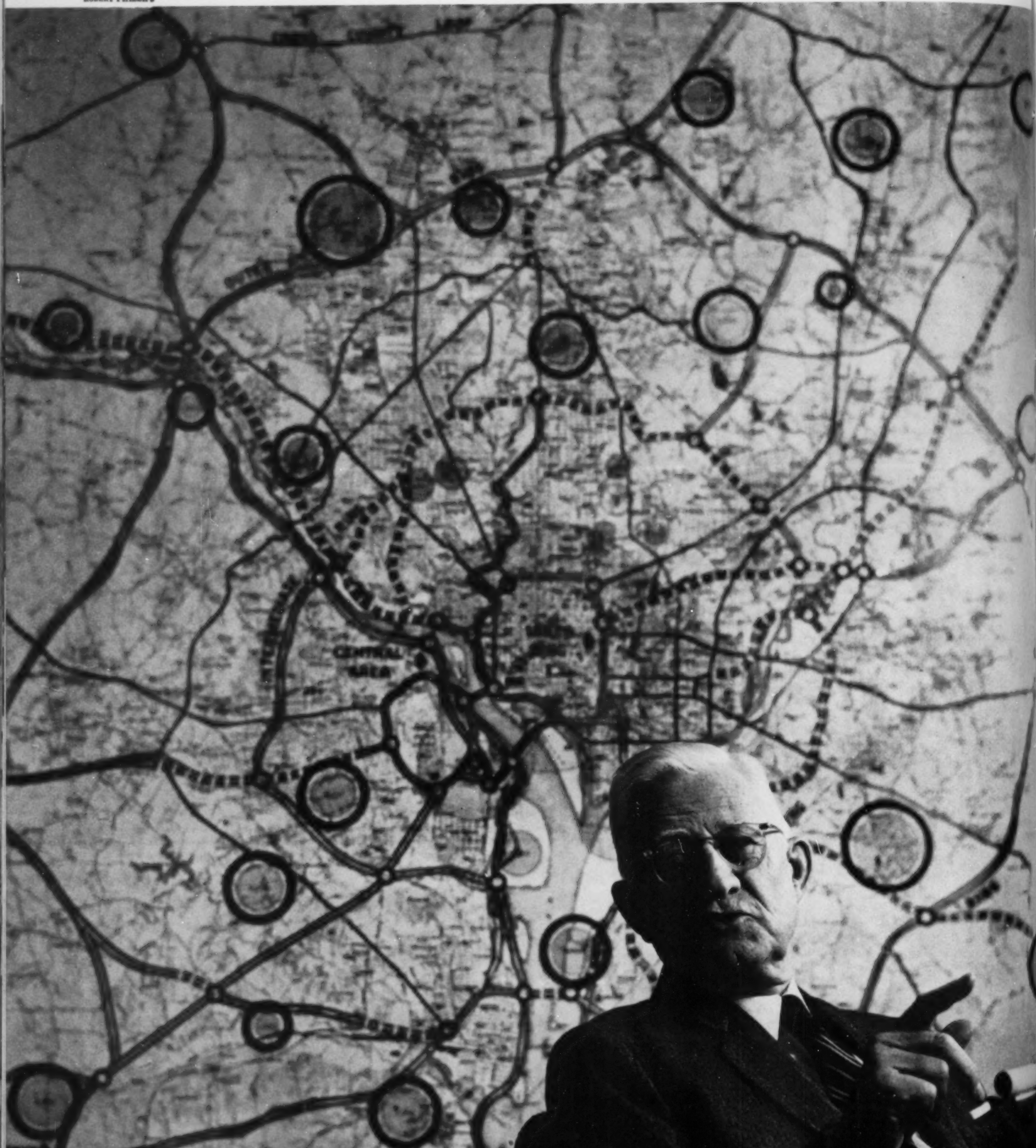
one
part
affic
942,
dle-
the
dle-
gers
era-
Port
van,
con-
ving
esti-
ning
into
de-
ting,
inal
-line
era-
hich
Port
ison
ided
the
ter-
vith
otel
will
,000
too
END

ging
min-
above
s as-
ound
n the
pper
hind.


HANGARS
1
2
3000 FT.
HOTEL
FEDERAL BLDG
CARGO
INDUSTRIAL AREA
HANGARS
HANGARS
TERMINAL CITY
INSTRUMENT RUNWAYS

# The city plans of

ROBERT PHILLIPS


CENTRAL AREA

# of Harland Bartholomew

### Without seeming to try, he made his planning firm the country's biggest. But the cities are presenting new challenges.

**City Planner Bartholomew** says: "To plan effectively, someone must bring the matter down to earth." Yankee-born Bartholomew, shown here with plan for Washington, D. C. has been bringing "realism" to planning for nearly half a century. Besides heading his own firm, he now bosses Washington's plan commission.

The imprint of Harland Bartholomew & Associates, city planners, is probably on more city plans than that of any other firm of its kind in the U.S. Few large American cities are without a file somewhere of the ponderous, often dusty volumes of the comprehensive city plan which has been the Bartholomew stock-in-trade for 40 years. The market for such plans is dwindling as more and more cities get their own planning agencies. And many critics, sometimes called dreamers, are beginning to question whether these often dry, conservative, routinized "master plans" have done any good, on the evidence of U.S. cities, or are adequate to meet the unprecedented needs of the new urban complex. But operating somewhere between the dreamers and hardheads of city development, with leanings toward the latter, is Bartholomew & Associates, still going strong.

Bartholomew & Associates is in many ways a fantastic, little-known operation. To the average businessman, trained to believe that success goes to the go-getter, its low-pressure history may prove disconcerting. Last year the firm grossed $2.2 million, which is success by any standard. Since its formation, it has completed comprehensive plans for 117 U.S. and Canadian cities, ranging from Washington, D.C. down to Ladue, Mo., which makes it probably the largest and most active of the 40-odd city planning firms that operate nationally. Beyond this, it has done zoning studies for 158 other communities; laid out more than $40 million worth of World War II housing and other facilities; master-planned military bases from Wright Field to Kwajalein; designed a new town in Hawaii; and positioned sewer and water lines for Karachi, Pakistan. Yet, on the word of Harland Bartholomew, senior partner, almost none of this work was solicited by the firm. "We have never really gone out and hunted for business," he says. And Bartholomew & Associates has hardly changed its modes and methods of operation in nearly 40 years.

Some of the firm's conservative character is seen in its headquarters, squeezed into part of a floor in a middle-aged office building in St. Louis. Except for a drafting room, its array of desks, files, and small offices has much the same dark, monochromatic, lumber-and-leather look as a law office. Space is tight, and the partners' offices, including Bartholomew's, reflect it. From here, the partners direct branch offices in Atlanta and Honolulu, and a total staff of 145 people, some of whom are always out on long-term projects. Actually, the firm has never wanted to change greatly, and, by and large, it hasn't. Currently it is working on nine comprehensive city plans (among them Beaumont, Tex., Duluth, Minn., and Minot, N.D.) and ten zoning studies, but until last month the firm had just the same number of partners, four, that it had in the twenties (it has now raised the total by two). And its planning approach and techniques have hardly changed either.

**In on the ground floor**

Most of the character of the business stems from Harland Bartholomew, founder and still active head of the firm at 68, though much of his time is now spent away from the office as chairman of the National Capital Planning Commission, the official planning agency for Washington. To a surprising extent after nearly 40 years, Bartholomew's personality—slightly courtly, careful and conservative, with all the recklessness, it has been said, of a Maine bank loan officer—still conditions not only the firm's physical surroundings, but its policies and its planning. It could hardly be otherwise, considering his background and schooling.

Bartholomew came into planning in 1912, after securing a degree in civil engineering from Rutgers University, going to work for E. P.

Goodrich, a New York firm of engineers. His first job was working on harbor plans for Portland, Ore., and Los Angeles–Long Beach, Calif. But that same year Goodrich got a contract, in association with Architect George B. Ford, to do a city plan for Newark, N.J., which had just set up a planning commission. Bartholomew was put to work on it, and after the job was finished he stayed on, as a city employee, to broaden the plan and supplement it with a highway program. "Very possibly it was the first permanent job anywhere in city planning," Bartholomew says, "and if I lacked experience for it, so did just about everyone else."

In 1912, city planning in the U.S. was still in its barest infancy. Less than 20 years had passed since the great Frederick Law Olmsted and Daniel H. Burnham in their plan for the Chicago World's Fair of 1893 had awakened the country to the value of orderly grouping and design, and only three years had lapsed since Burnham's electrifying comprehensive plan for Chicago. Though a handful of men was taking up city planning as a profession—John Nolen, Charles M. Robinson, Edward H. Bennett, as well as Burnham and Frederick Law Olmsted Jr. —only one school, Harvard, had a course in it, and the country as a whole was still to be convinced of planning's virtues. What acceptance there was was divided between the ideals of the City Beautiful movement, then breathing its last amid the leafy arches of a few pretty avenues and monumental city circles, and the forces of the City Efficient, which in the decades ahead were to trade civic design for zoning, the sharp demarcation of city areas by function. Thus Bartholomew came in on the ground floor.

The Newark plan, as so many of these plans were destined to do, came to nothing immediately. But it did lead in 1915 to Bartholomew being offered a commission by a citizens' group to do a full-scale plan for St. Louis. Bartholomew moved to St. Louis and has lived there ever since. He worked three solid years on the St. Louis plan, part of the time for the citizens' group, later for the city as planning engineer, a job he held until 1950. The result was the massively documented, elaborately mapped city master plan which, as a package of several volumes, became the Bartholomew trade mark. It set out to consider the city's needs and growth in all aspects, but heavily on the engineering side: highways and streets, transportation, public utilities, parks, schools, housing, public buildings, appearance, capital spending, and above all zoning, which Bartholomew raised into a master planning tool.

Over the years, Bartholomew and his partners have, to be sure, enlarged the scope of their plans and refined their techniques, but the product itself still bears a striking resemblance to the St. Louis prototype. Moreover, this prototype has given rise to a host of similar plans, the general criticism of which is that they are carefully drawn to formula, thoroughly engineered, and overridingly dull, cautious, and unimaginative. That they are no cure-all even where applied is demonstrated by the fact that St. Louis today has much the same congestion, decay at the center, and other ills that modern cities are heir to.

If such criticism nettles Bartholomew, he easily brushes it aside. "In the minds of some people," he says, "we are horribly conservative; in

**Unworried partners** foresee less big-city planning, but more highway work ahead. Flanking Bartholomew (from left) are Eldridge Lovelace, Harry W. Alexander, and Russell H. Riley. Bartholomew is only survivor of firm's original four partners.

the minds of others we are as radical as we can be. We'll always be caught between the men with the big ideas and the real estate people, and there's very little we can do about it."

**Through the years**

Within a year of the St. Louis plan in 1918, Bartholomew and three partners (all now dead) were firmly in city planning. Zoning was going like wildfire, and within a few months the firm had a contract for an ordinance for Washington, D.C., and assignments to advise on city plans in Omaha and Detroit. By the mid-twenties, it was adding new jobs at a rate of three city plans a year (price: $7,500 to $20,000), and the staff was up to 12 to 15. (Just how many of its plans have been carried out, the firm doesn't know; its estimate, however, is about 75 per cent.)

Most of the work flowed in because of Bartholomew's mounting reputation. He became a professor of civic design at the University of Illinois, a consultant to the National Capital Park and Planning Commission, and, in 1931, chairman of the Subdivision Layout Committee for Hoover's White House Conference on Home Building and Home Ownership. In 1932 he published a book, *Urban Land Uses* (expanded in a 1955 version as *Land Use in American Cities*) that probably did more to spread his name than any other work. Drawn from 22 city studies, this book was the first to delineate on a broad scale the land-use pattern of America's urban centers. Its findings had tremendous impact, for while developers had been saying that 30 to 40 per cent of the city should be zoned commercial and multifamily residential, Bartholomew's figures showed that the total usage for apartment and commercial buildings came to no more than about 3½ per cent.

PHOTOS: GEORGE HARRIS

**Chief engineer,** William S. Pollard Jr., was University of Illinois teacher until 1955, has just become partner. A highway specialist, he is currently in charge of road job in Memphis and Shelby County.

To survive the depression, when, between 1931 and 1937, the firm had no planning contracts at all, Bartholomew went to work for the National Resources Planning Board, "a sort of relief organization for planners." By 1937, though, city-plan contracts began to trickle in again. Memphis asked for a revision of its original plan, and so did Lansing, Mich. (In all, the firm has done about 30 such updatings.) But it wasn't until World War II that the firm got back to its size in the Twenties—and way beyond it.

If the war was hard on architects, it was a bonanza for most planners. Not only was there military work to do, but many cities seized on the lull in building to draw fresh plans and prepare public works as a prop for any postwar depression. In 1942, Bartholomew & Associates found itself with a $500,000 contract to lay out 11,200 units of government wartime housing, plus community facilities, on five separate sites near Norfolk and Portsmouth, Va. Within two months, the firm's staff shot up from 25 to over 200. A year later, it was called in to do a 30-day rush job for $28 million worth of construction at Wright Field, Ohio, and hardly was this finished when it went on to do a similar job for Patterson Field, Ohio. Meanwhile, Newark was asking for a revision of its plan (the firm set up a branch in Newark that lasted until 1950) and Vancouver contracted for a re-do.

At the end of the emergency, while the firm dropped back temporarily to a staff of about 25, its momentum was such that it did not lack for business. Through most of the postwar years it has been able to hold a level of about nine major city contracts per year. It has done comprehensive plans for Dallas, New Orleans, Oklahoma City, for burned-out Bar Harbor, Me., and modern Williamsburg, to coordinate it with the colonial restoration.

**Chief designer,** Claire Avis, is an architect who has been with Bartholomew for most of time since 1941. She did site plans for Navy shore stations, now works mainly on shopping centers, subdivisions.

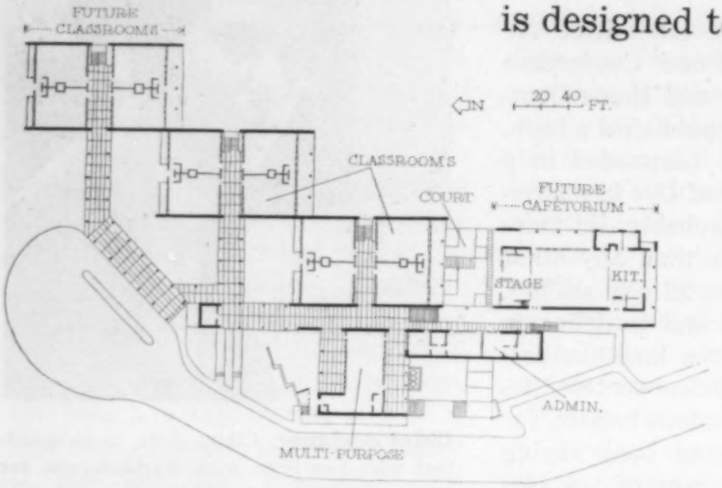
Until this year, three partners in addition to Bartholomew ran the firm, as in the beginning. All three have been with the firm since at least the Thirties, and all have somewhat similar backgrounds. Russell H. Riley, 54, is a landscape architect and engineer who became a partner in 1934; Harry W. Alexander, 58, is a civil engineer who began as a resident engineer during the twenties and became a partner in 1938; and Eldridge Lovelace, 44, is a landscape architect who began as a draftsman in 1935 and has been a partner only since 1943.

This year two additional partners were taken in: William S. Pollard Jr., 33, who has been the firm's chief engineer since 1955, and Donald H. Wolbrink, 46, a landscape architect and planner who heads the Honolulu branch office and has been in charge of all work in the Pacific since 1947.

Except for Wolbrink, who is permanently in Honolulu, and Bartholo-

*continued on page 156*

This building, full of nature and daylight, is designed to make the most of a site nobody wanted.



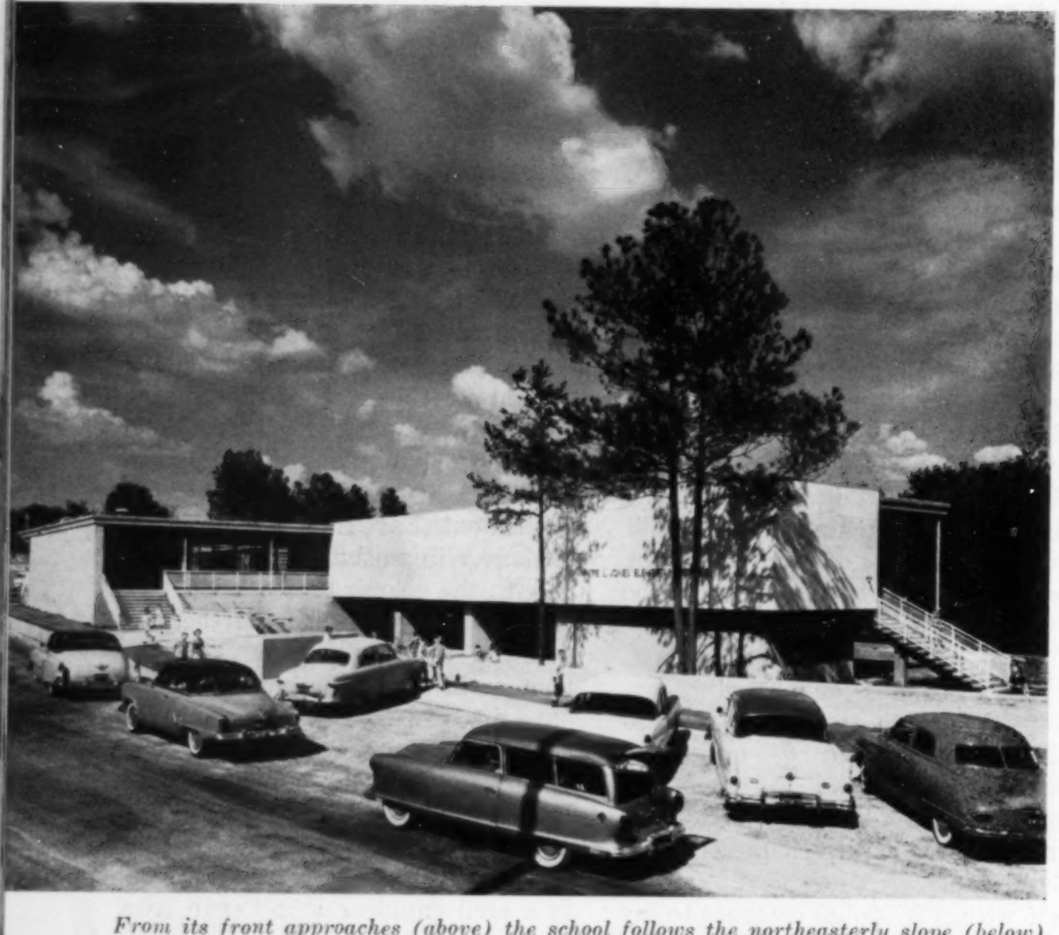
# Easygoing school in Texas

The rough-and-tumble development of oil-rich Tyler, Texas forced the local school board to accept a somewhat scrubby 10-acre hillside plot for its new school. By emphasizing the few natural charms of the site, a scattering of trees, and by creating a breezy, fresh-air plan that was just right for the community, Architect E. Davis Wilcox was able to make the school board's back-to-the-wall decision look like a bit of inspiration.

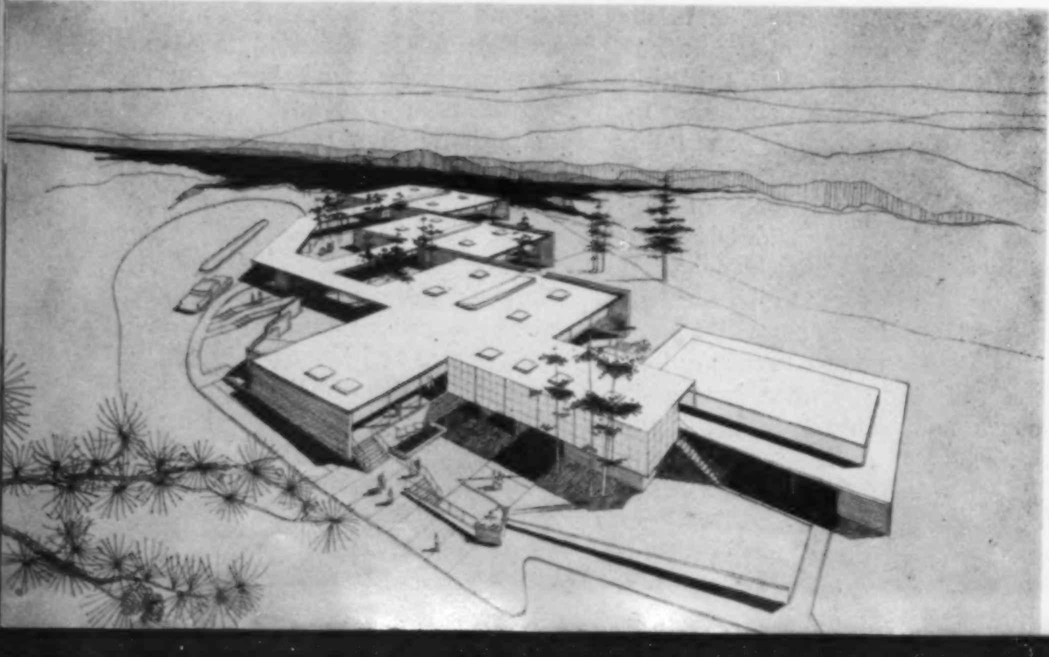
Supported by concrete columns, the upper level of the Mattie L. Jones Elementary School is strung out along the slope in four zigzag sections, the foremost being the administration wing and the remaining three, classroom clusters. Beneath is a lower level with room for several open play areas, 14,000 square feet of covered play area, and a 360-seat, combination auditorium-cafeteria (cafetorium). Connecting the two levels are broad staircases leading into open corridors.

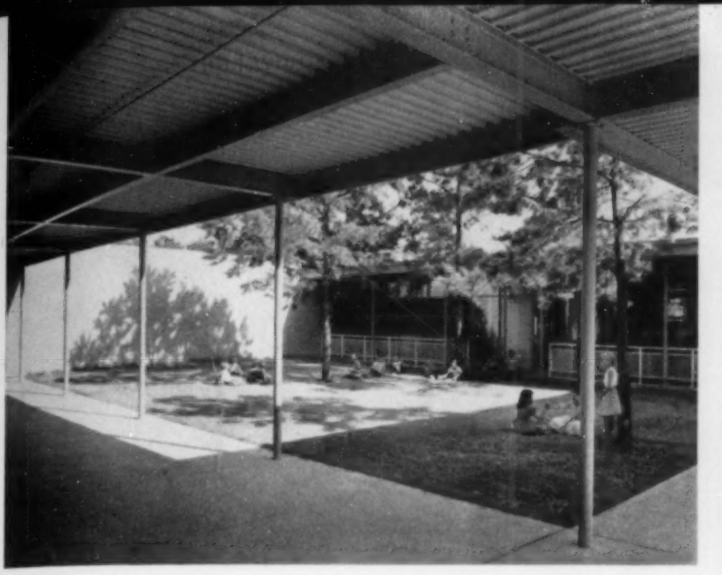
Everything has now been built except the outermost quadruple classroom unit and the cafetorium. And the school has been designed with an easygoing efficiency (several outdoor classrooms; a highly flexible plan) that should prove particularly interesting to school planners of the cost-conscious variety.

Total construction cost of the 360-pupil school was $354,497, including estimates for the future additions. Using N. L. Engelhardt Jr.'s school-building-cost formula (FORUM, Nov. '57), the architect puts the *adjusted* construction cost (excluding foundations) at $7.51 per gross square foot, or $14.65 per net square foot. END

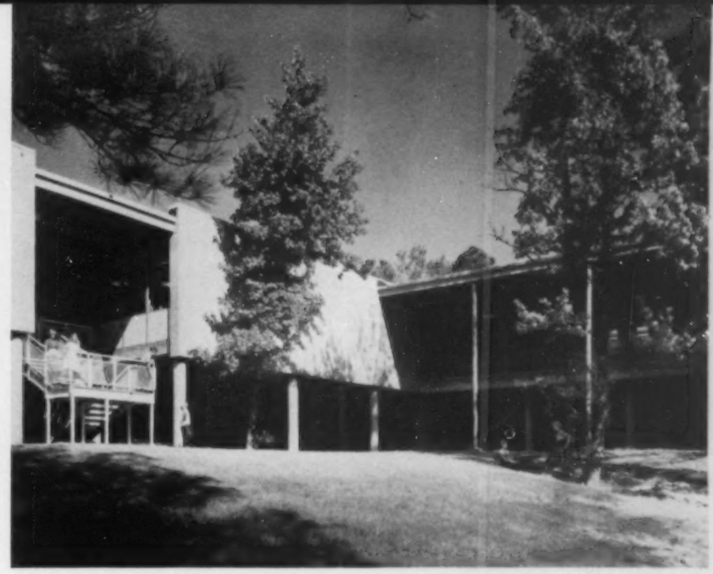


*From its front approaches (above) the school follows the northeasterly slope (below).*

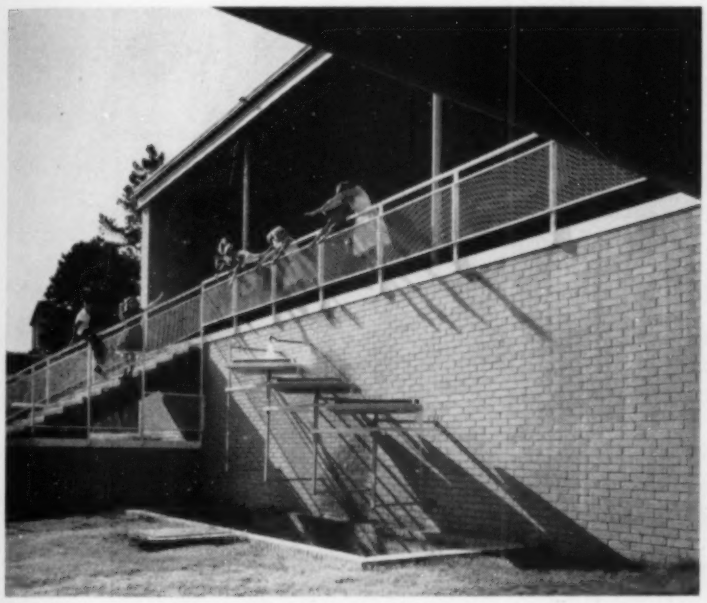




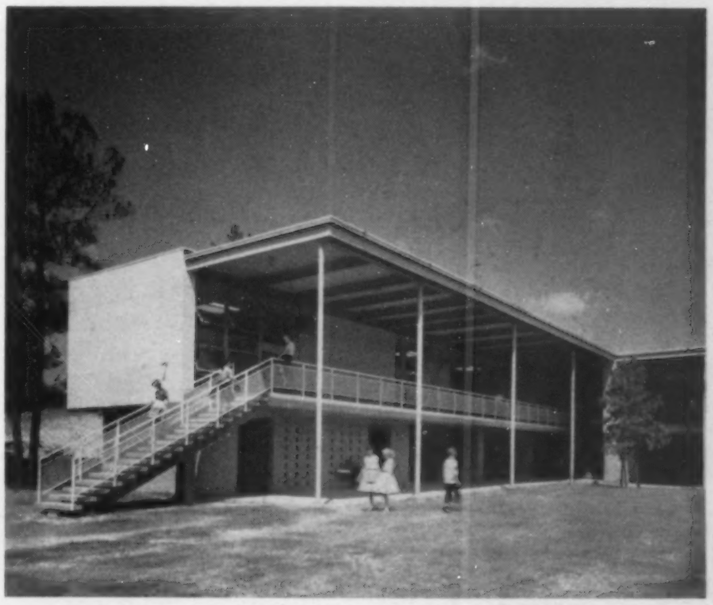
**Pine trees** were left to hum above the outdoor classrooms. Shelter and shade were given by steel-roofed breezeways.



**A lower-level greensward** extends outward and downhill from the asphalted play area beneath the classroom wings.



**A three-level fountain** outside the administration wing adds another of nature's noises to the children's play world.



**The cafetorium** will be added in a second phase of building, located where three children are running in the foreground.

PHOTOS: ROLAND CHATHAM

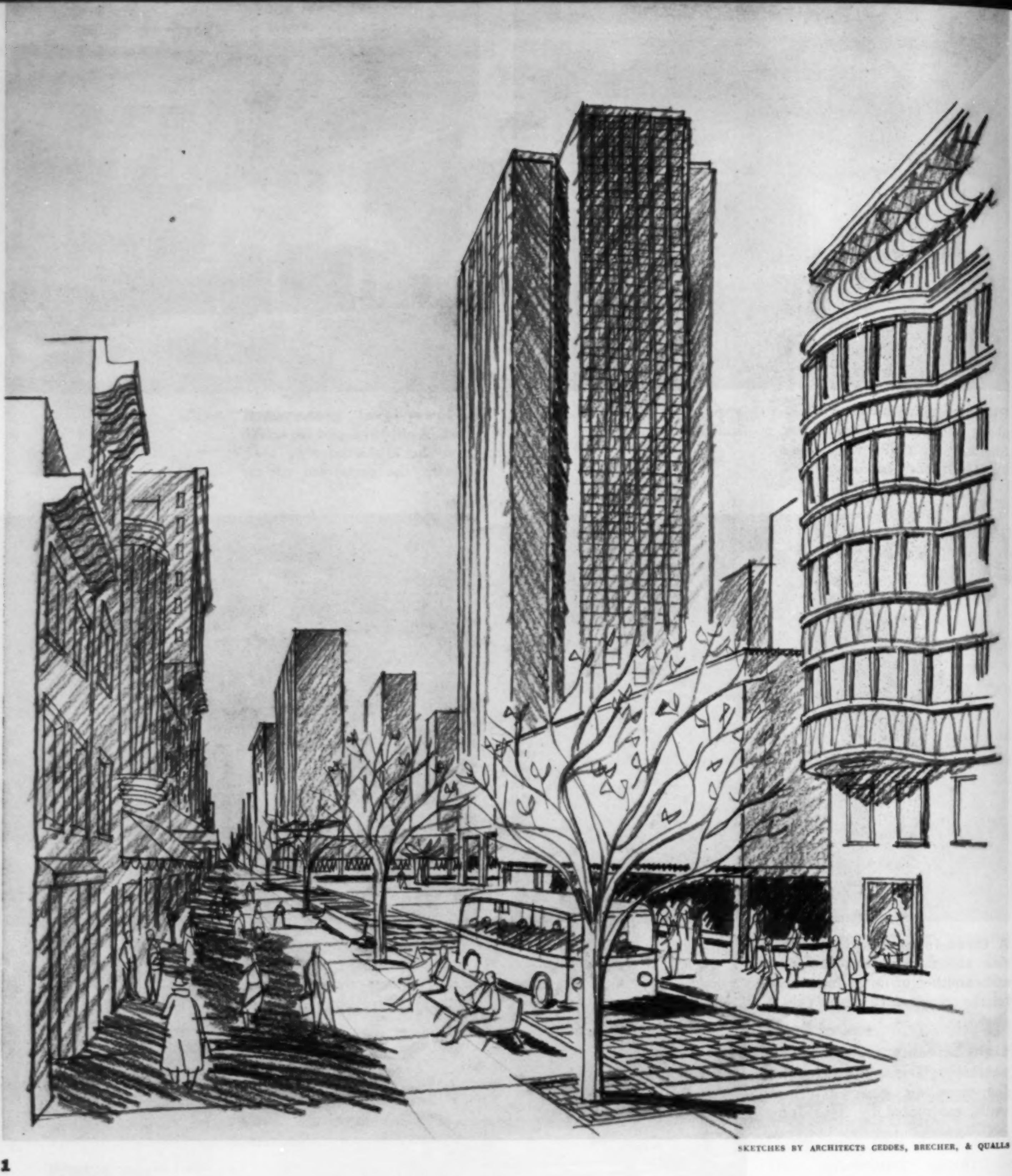
**Light streams** into the wood-paneled classrooms through floor-to-ceiling glass exterior walls, modulated by trees and porticoes.

MATTIE L. JONES SCHOOL,
Tyler, Texas

ARCHITECTS:
E. Davis Wilcox Assocs.

ENGINEERS:
Demopulos & Ferguson and
J. W. Hall Jr.

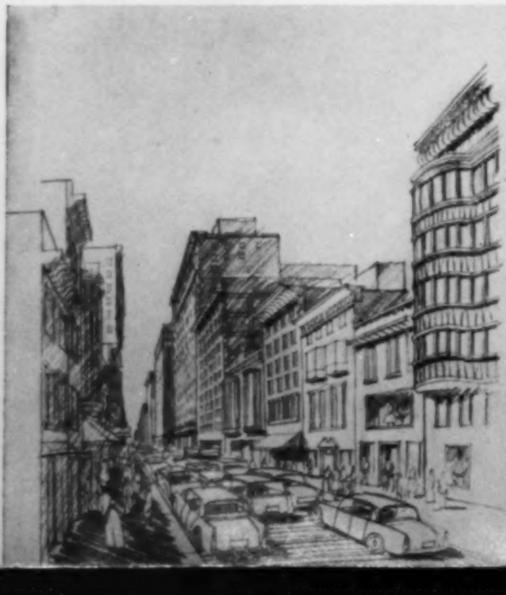
CONTRACTOR:
R. L. Clanahan Const. Co.



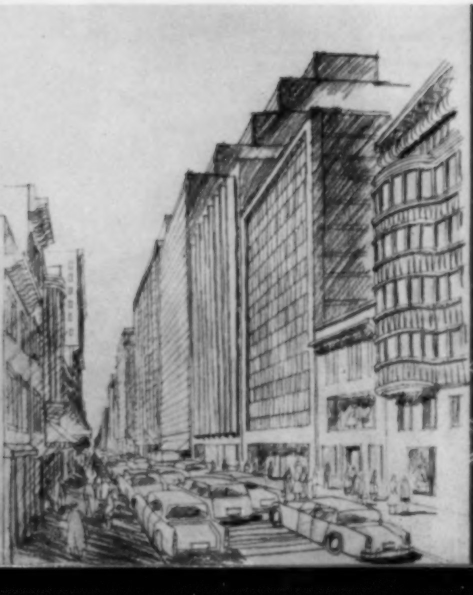
SKETCHES BY ARCHITECTS GEDDES, BRECHER, & QUALLS

1

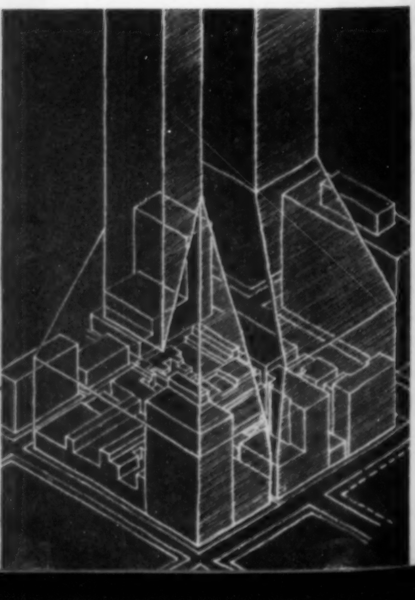
2

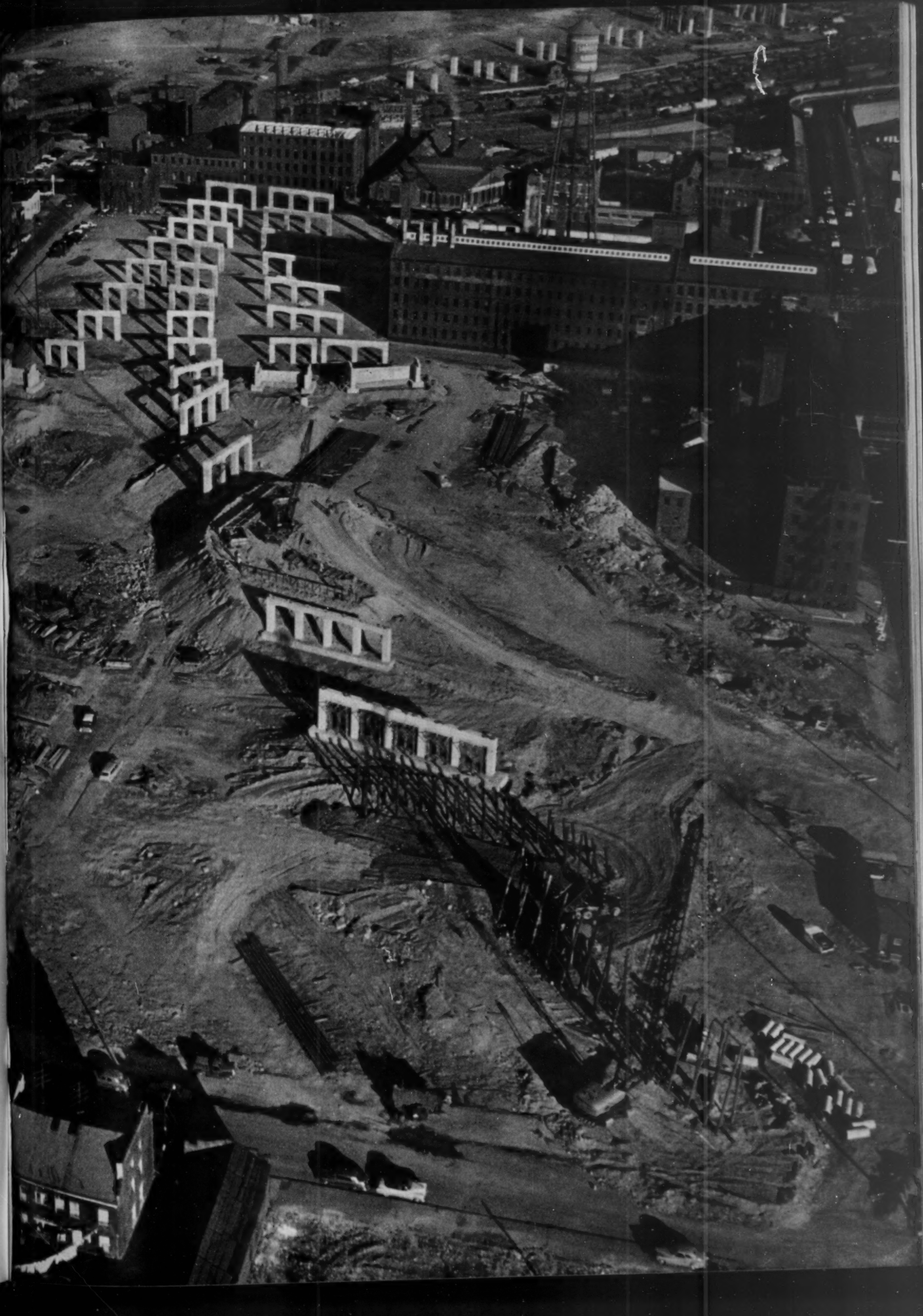


3



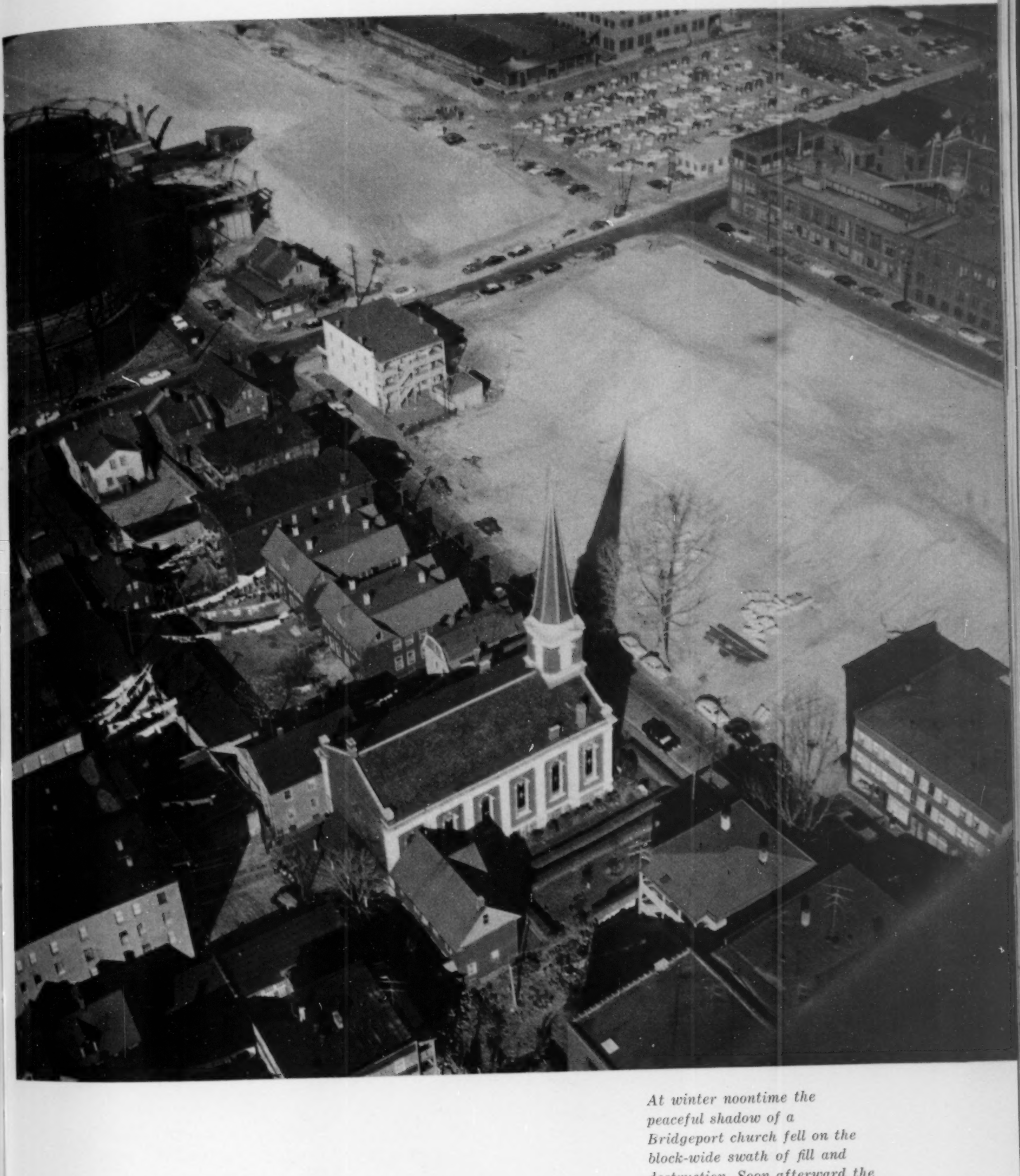
4



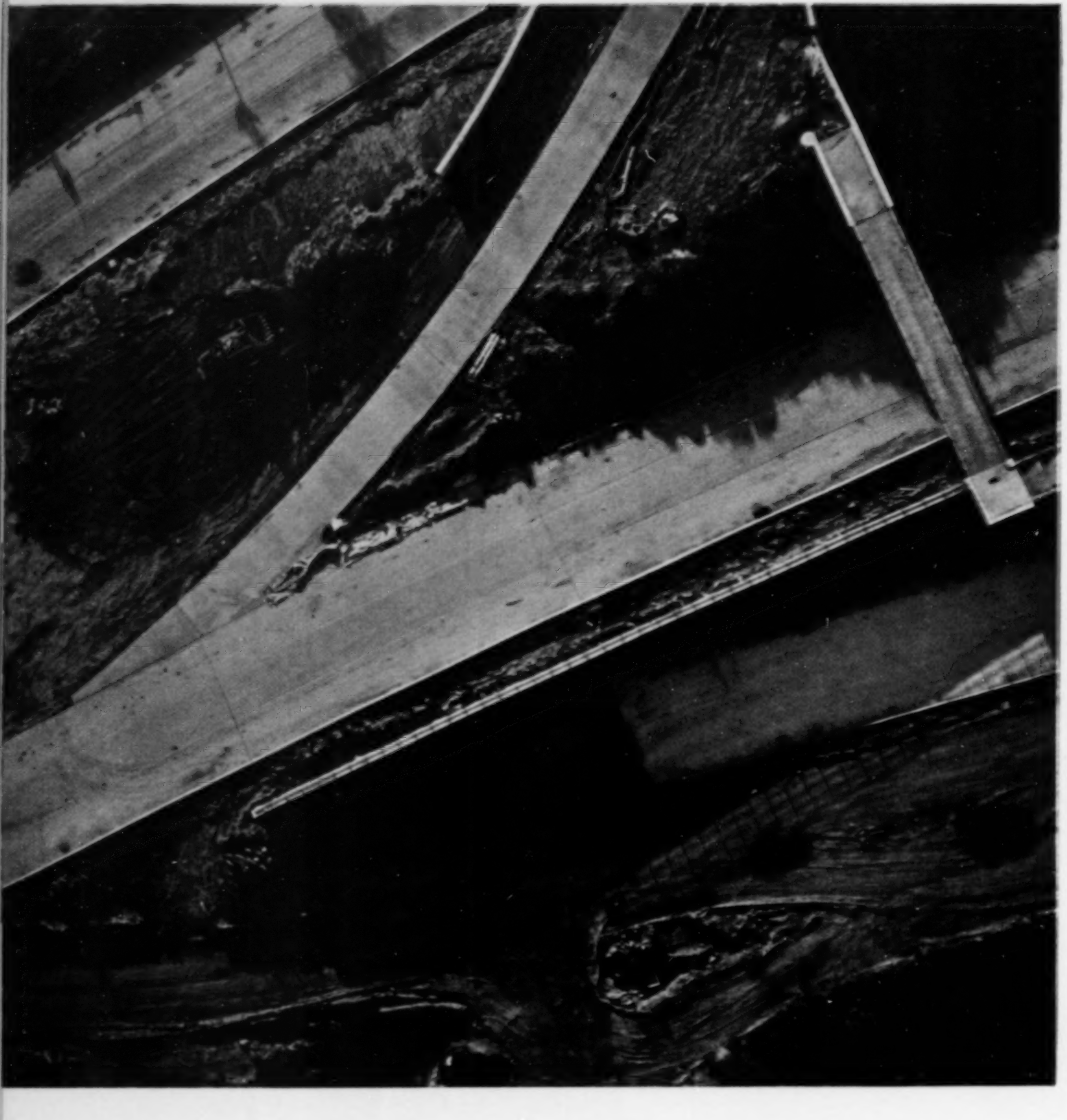


*The bars and shops of Bridgeport's West Side were blanched by unexpected sunlight when the wreckers swept past. After destruction came pipe pilings, sunk through mud to bedrock.*

*Then came fill—mountains and deserts of it—dredged from the bottom of Long Island Sound. Engulfing homes and factories, the overflowing heaps had to be held back by dikelike retaining walls.*

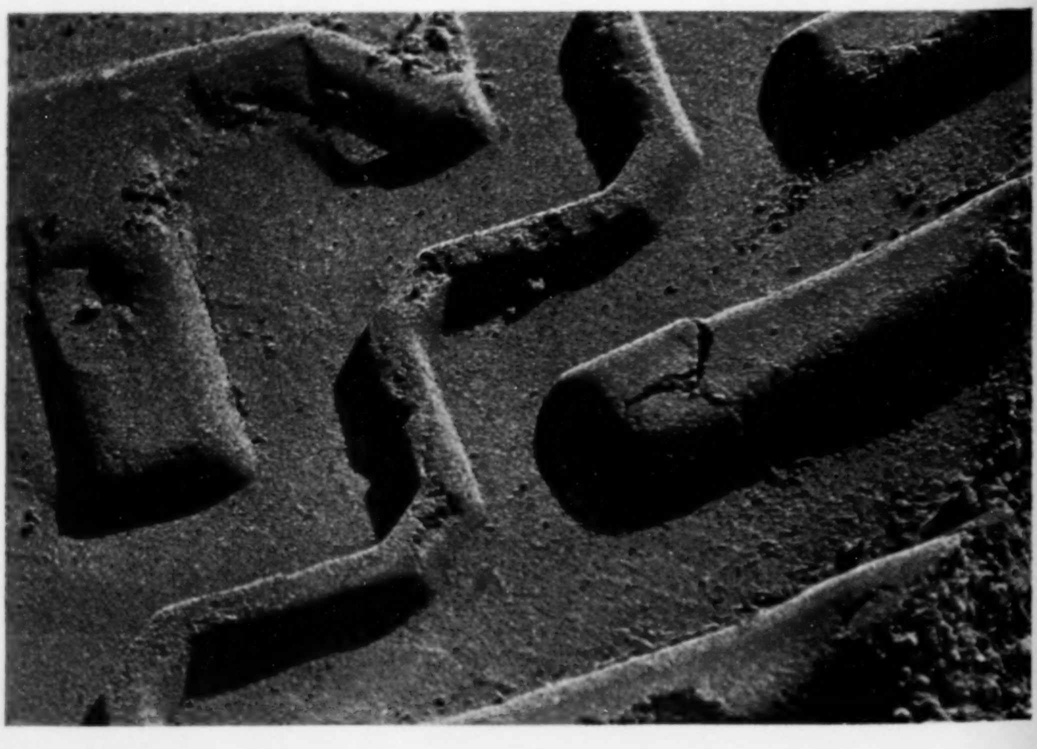


*At winter noontime the peaceful shadow of a Bridgeport church fell on the block-wide swath of fill and destruction. Soon afterward the giant sand pile was swarming with workmen again.*



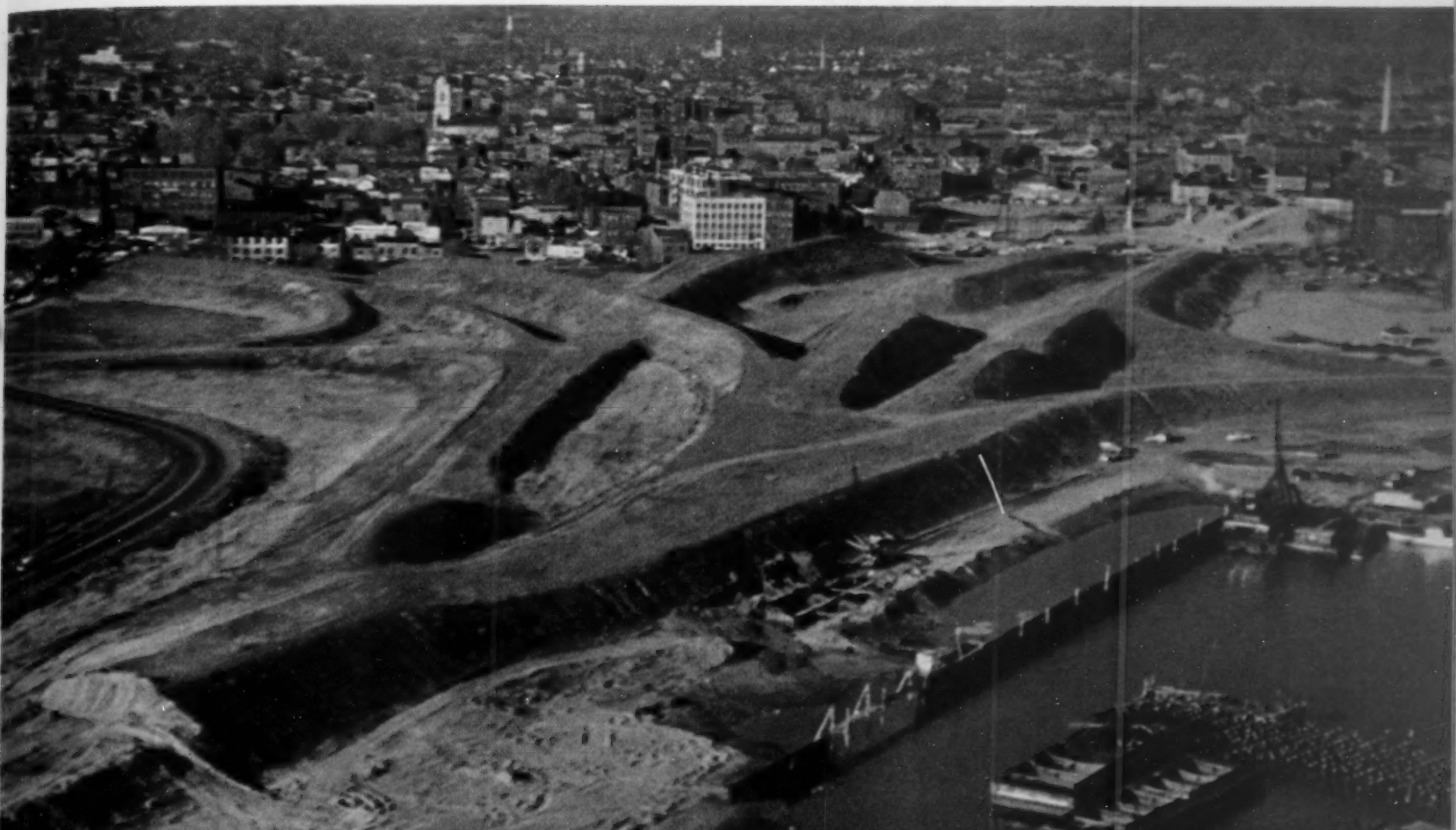
*A deeply furrowed, heavily traveled coastline of rivers and roadways lay between the western end of the turnpike and its eastern objective. Bridges and underpasses were the answer: the road makes 273 leaps and dives within 124 miles.*

*Stamped into the face of the land were footmarks of the giant earth movers that had come to reshape the mobility of an entire region. Yet the tracks resembled nothing mightier than a child's seaside construction project.*

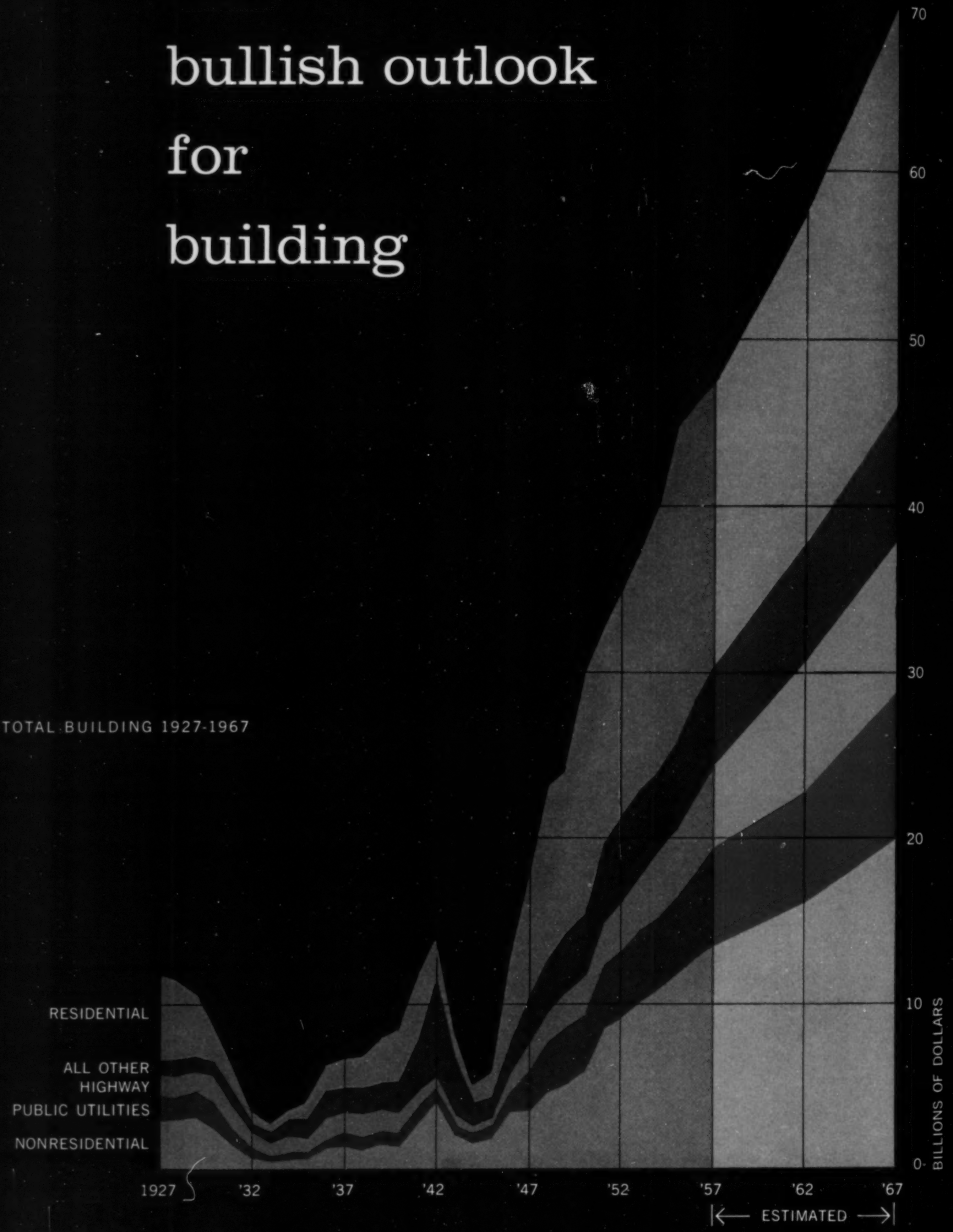


*Along the New Haven water front stretched the massive, greening limbs of an interchange that, after more than three years of sporadic growth, awaited final grafting to the other segments of the turnpike.*

PHOTOGRAPHS BY ROBERT M. MOTTAR—FORTUNE



# The bullish outlook for building



Source: U. S. Departments of Commerce and Labor; FORUM estimates.

Note: Public utilities includes only privately financed utilities; all figures in current dollars, except 1962, 1967 estimates which are in constant 1957 dollars.

## Despite the business letdown, the construction industry's outlook remains dazzling. FORUM's forecast: a massive $600 billion of building in the decade ahead—more than the present value of all existing private structures.

Seldom has an industry faced so prosperous a future as that which now confronts the U.S. construction industry. At a time when much of the economy has been revising its business forecasts downward, the outlook for construction has been going through a series of surprisingly sharp markups. Building prospects for 1958, which were good before the economic letdown began last autumn, are now nearly $300 million better. And there is a good chance of even greater improvement. Farther ahead, over the next decade, the prospect of tremendous new gains in construction spending has become increasingly likely. Indeed, building's long-range outlook, always fabulous, is today brighter than ever before.

This dazzling vision of the future is based on two new and detailed studies that have just been completed by FORUM's economic consultant, Miles Colean. One of these surveys is a second look, in line with the now-complete 1957 building totals, at the probable level of construction activity for the current year. The other is the second FORUM estimate of building volume for the decade ahead. (The first ten-year forecast appeared in Dec. 1956.) Taken together, the two studies represent the latest and most comprehensive data available on the construction outlook. Here, specifically, is what they show:

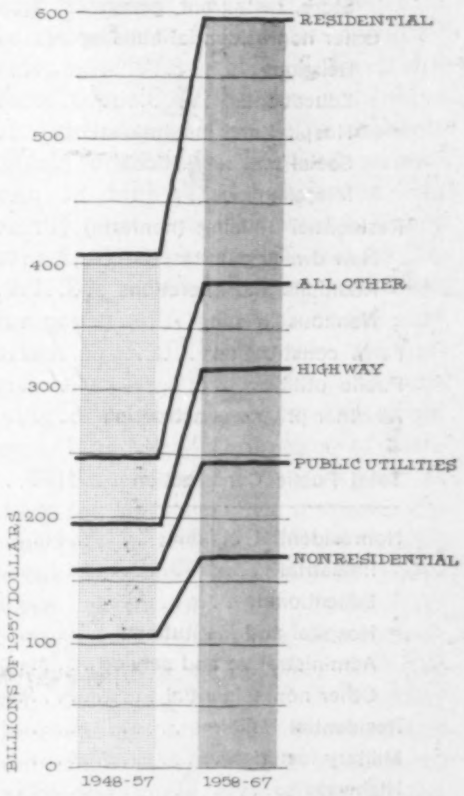
**1958.** New construction this year will climb nearly 4 per cent above last year's total of $47.3 billion to a new record of $49 billion (all data in constant 1957 dollars). This will be an increase in actual physical volume. In contrast, during 1957, dollar volume rose 3 per cent ($1.2 billion) because of inflation, but physical volume dipped about 1 per cent.

This new forecast compares with an anticipated rise of 3 per cent, which as late as last autumn seemed about the best that could be hoped for (FORUM, Oct. '57). Most of the gain stems from residential building, now past the worst of its slump and rapidly moving into a period when easing credit will produce a moderate rise in new housing starts. Helped by apartment construction, which should top 100,000 units this year, housing can now look to a year in which about 1,050,000 new units will be started, compared with the 1-million-or-less units that were forecast last fall and 1957's actual total of 1,039,200. Beyond this, it now seems likely there will be a slight pickup in commercial construction—about 4.5 per cent over the autumn forecast—with easier money again responsible. There will also be some added building by privately financed public utilities, now expected to total $6.2 billion. All told, this extra $1.2 billion gain in dollar volume will be more than enough to compensate for what now seems likely to be a bigger dip than previously anticipated in industrial construction (new capital spending surveys point to a drop of nearly 12 per cent—$450 million—under last fall's forecast).

**Long-term growth** of new construction will push building's volume to $70 billion in 1967, 48 per cent above last year. The biggest gain—88 per cent—will be in highway spending. Next in line: nonresidential construction, up 50 per cent by 1967.

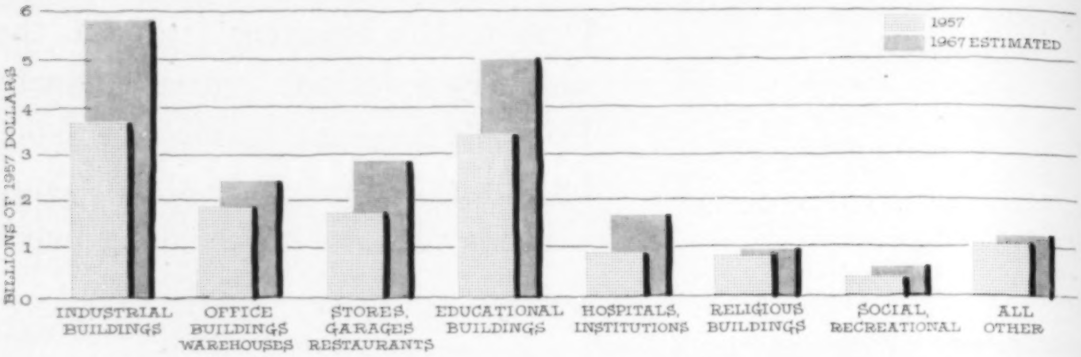
**1958-1967.** By 1967, the annual rate of new construction will have soared to nearly $70 billion (in 1957 dollars), a massive 48 per cent increase above last year. This estimate reflects a substantial addition to the projections that FORUM made just a year ago. In recent months, a sweeping revision of government figures for residential additions and alterations, which stemmed from a special study by the Bureau of Labor Statistics, has added about $2 billion a

**Coming: another boom decade**



**A 50 per cent gain** in construction spending will make the next decade the biggest in building history. Total outlays for new construction will be nearly $600 billion, compared with $409.6 billion (1957 dollars) from 1948 through 1957.

**The big gains in nonresidential building**



**Fastest growing sectors** of nonresidential building will be hospitals (1967 gain: outlays 96 per cent over last year), social and recreational (77 per cent gain), and industrial (60 per cent gain).

**NEW CONSTRUCTION EXPENDITURES (in millions of 1957 dollars)**

| | 1957 | 1958 | Change 1957-58 | 1962 | Change 1957-62 | 1967 | Change 1957-67 |
|---|---|---|---|---|---|---|---|
| TOTAL NEW CONSTRUCTION | **47,255** | **49,000** | **3.7%** | **57,300** | **21.3%** | **70,000** | **48.1%** |
| Total Private Construction | **33,313** | **33,800** | **1.5** | **39,200** | **17.7** | **48,300** | **45.0** |
| Nonresidential building | 9,138 | 8,900 | −2.6 | 11,000 | 20.4 | 13,700 | 49.9 |
| Industrial | 3,162 | 2,800 | −11.4 | 3,900 | 23.3 | 5,200 | 64.5 |
| Commercial | 3,570 | 3,500 | −2.0 | 4,200 | 17.6 | 5,100 | 42.9 |
| Warehouse, office, loft | 1,864 | 1,900 | 1.9 | 2,000 | 7.3 | 2,400 | 28.8 |
| Store, restaurant, garage | 1,706 | 1,600 | −6.2 | 2,200 | 29.0 | 2,700 | 58.3 |
| Other nonresidential building | 2,406 | 2,600 | 8.1 | 2,900 | 20.5 | 3,400 | 41.3 |
| Religious | 868 | 920 | 6.0 | 900 | 3.7 | 950 | 9.4 |
| Educational | 519 | 550 | 6.0 | 800 | 54.1 | 900 | 73.4 |
| Hospital and institutional | 505 | 590 | 16.8 | 600 | 18.8 | 750 | 48.5 |
| Social and recreational | 309 | 320 | 3.6 | 400 | 29.4 | 550 | 78.0 |
| Miscellaneous | 205 | 220 | 7.3 | 200 | −2.4 | 250 | 22.0 |
| Residential building (nonfarm) | 16,571 | 17,000 | 2.6 | 19,700 | 18.9 | 24,000 | 44.8 |
| New dwelling units | 12,160 | 12,300 | 1.2 | 14,300 | 17.6 | 17,200 | 41.4 |
| Additions and alterations | 3,912 | 4,200 | 7.4 | 4,800 | 22.7 | 6,000 | 53.4 |
| Nonhousekeeping | 499 | 500 | * | 600 | 20.2 | 800 | 60.3 |
| Farm construction | 1,590 | 1,500 | −5.7 | 1,700 | 6.9 | 1,800 | 13.2 |
| Public utilities | 5,830 | 6,200 | 6.3 | 6,600 | 13.2 | 8,500 | 45.8 |
| All other private construction | 184 | 200 | 8.7 | 200 | 8.7 | 300 | 63.0 |
| Total Public Construction | **13,942** | **15,200** | **9.0** | **18,100** | **29.8** | **21,000** | **55.6** |
| Nonresidential building | 4,481 | 4,900 | 9.4 | 5,100 | 13.8 | 6,500 | 45.1 |
| Industrial | 458 | 550 | 20.1 | 600 | 31.0 | 600 | 31.0 |
| Educational | 2,832 | 3,050 | 7.7 | 3,200 | 13.0 | 4,100 | 44.8 |
| Hospital and institutional | 333 | 350 | 5.1 | 500 | 50.2 | 900 | 170.3 |
| Administrative and service | 434 | 500 | 15.2 | 800 | −6.8 | 900 | 4.9 |
| Other nonresidential | 424 | 450 | 6.1 | | | | |
| Residential building | 510 | 600 | 17.6 | 300 | −41.2 | 300 | −41.2 |
| Military facilities | 1,275 | 1,200 | −5.9 | 1,400 | 9.8 | 1,300 | 2.0 |
| Highways | 4,840 | 5,600 | 15.7 | 7,900 | 63.2 | 9,100 | 88.0 |
| Sewer and water systems | 1,347 | 1,400 | 3.9 | 1,700 | 26.2 | 2,400 | 78.2 |
| Miscellaneous public service | 393 | 400 | 1.8 | 600 | 52.7 | 900 | 129.6 |
| Conservation and development | 975 | 950 | −2.6 | 900 | −7.7 | 950 | −2.6 |
| All other public construction | 121 | 150 | 24.0 | 200 | 65.3 | 250 | 106.6 |

---

*Less than 1 per cent.

year to the construction totals for the last few years. Carried forward and applied to each of the years in the next decade, this change has meant a sizable upgrading of estimates. It now appears that close to $600 billion (1957 dollars) will be spent on new construction during the 1958-1967 decade—nearly $200 billion, or 50 per cent, more than went into building in the decade 1948-1957, the greatest building-boom period to date.

Private residential building alone will account for $200 billion of new construction in the ten years ahead; $85 billion will be spent on industrial and commercial construction, $16 billion on religious and private institutional buildings, and $75 billion on utilities. Outlays for schools and educational facilities will amount to about $45 billion, while highway spending will total at least $75 billion, and outlays for sewer and water systems, nearly $20 billion. All told, during the coming decade, new construction expenditures will just about equal the present depreciated value of all private structures —homes, office buildings, factories, stores, etc.—standing in the U.S. today.

### Golden decade

The statistical assumptions underlying Forum's ten-year forecast are exceedingly conservative—assuming that the coming decade will be free of war and serious depression. Forum has no fear that its estimates are too optimistic. For one thing, they are based on projections of statistics that undoubtedly understate the actual volume of construction today (e.g., further adjustments will probably have to be made in the estimates for new dwelling units as a result of the Census Bureau's 1956 housing inventory, which has just been published). Beyond this, the estimates are also conservative in that they assume that the American standard of living—i.e., productivity—will rise no faster during the next decade than during the last one. They also assume that construction's contribution to gross national product (GNP: the total value of all goods and services produced in the U.S.) will be only slightly larger in the next ten years than in the last ten.

More specifically, Forum's construction projections for the coming decade are based on an estimate of future gross national product per capita multiplied by future population estimates. They suppose that the increase in per capita GNP will be at a compound rate of about 1.85 per cent a year, which is roughly the average for the postwar period. In addition, they assume that construction's share of total GNP will be only 11.5 per cent in 1967, a slice which is a bare 0.6 percentage points greater than today. Even if defense imposes a heavy drain on the economy during the coming decade, technological advance is likely to mean a greater improvement in living standards and, consequently, because of obsolescence, in construction's share of product, than these estimates take into account. Thus, in all probability, any revision of the figures will have to be on the up side.

As Forum reported a year ago, the dominant force in future construction will be the need for continually improving and expanding the nation's capital plant. There will be not only a fairly steady climb in the amount of industrial and commercial building, but also tremendous additions to utility capacity to serve a market that by 1967 will add up to nearly 200 million people. By the same token, population increases will force an expansion of public facilities—highways, sewers, schools, hospitals, airports, etc. Practically every segment of the building industry will feel the impact of this vigorous growth:

**Business building.** The current slump in industrial and commercial building will soon be forgotten. Despite all the talk of overcapacity, the U.S. today is actually greatly underequipped to meet the long-range challenges of more people, better living standards, and new production techniques. By 1967, Forum anticipates that the annual rate of factory building will be more than 70 per cent higher than now; commercial construction, which will have to strain to meet the needs of new urban redevelopment, will have increased by 43 per cent.

**Residential construction.** By 1967, the number of households in the U.S. will have risen to about 58.2 million. As a result, 1.5 million new housing starts a year will be as common ten years from now as 1 million are today. Apartment construction alone will be running at a rate of 200,000 to 300,000 new units a year (compared with about 100,000 units now). In all, the volume of housing is likely to be nearly 45 per cent greater in 1967 than it is now.

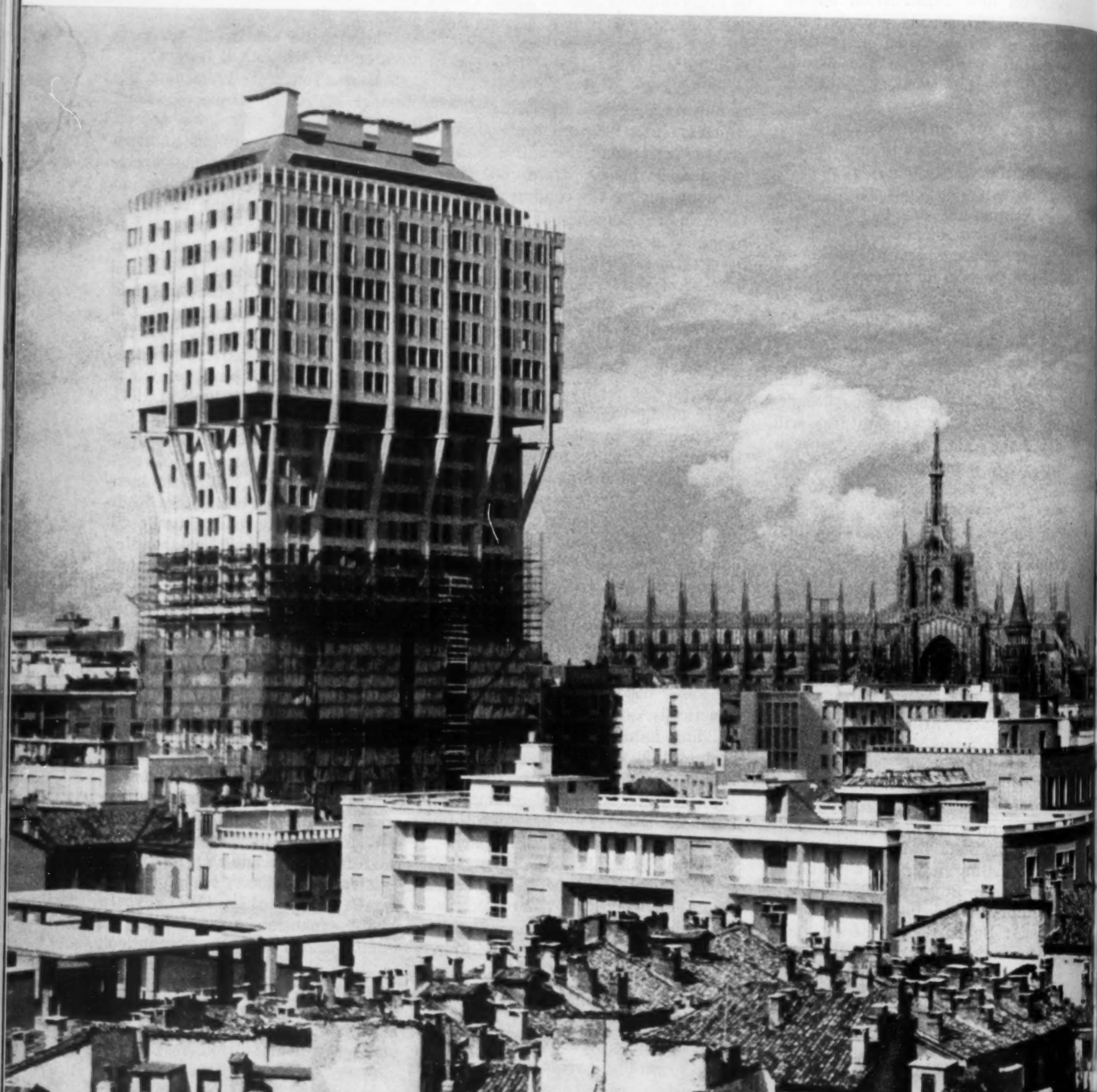
**Schools.** Ten years from now, the number of young people of school and college age will have soared from today's 44.8 million to more than 58 million. Educational building will be racing against population growth, and the volume of school construction will be at least 45 per cent greater in 1967 than last year.

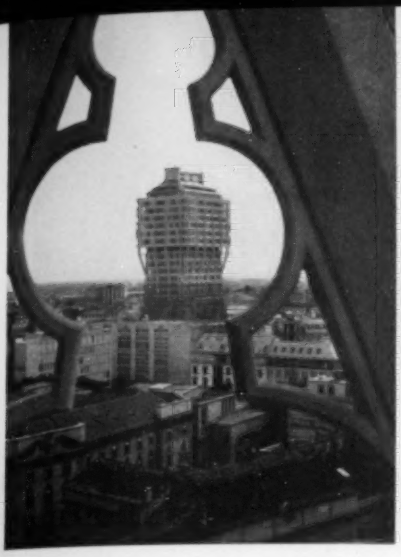
**Hospitals and churches.** Population growth, rising health standards, and new medical discoveries will add tremendously to required outlays for hospitals and research centers. Spending for this purpose, which was less than $850 million in 1957, will be more than $1.6 billion in 1967. Meanwhile, church building will continue to boom.

**Highways.** At the end of the coming decade, annual outlays for highway and street construction will still be rising, even though the spending rate, now $4.8 billion a year, will have topped $9 billion (exclusive of right-of-way costs). The multiple effects of this unparalleled expansion in highway construction can hardly be overestimated. Every aspect of urban life will feel its impact. The road-building program has the power both to intensify the suburban shift and to restore the balance between the close-in and outlying divisions of the metropolitan area. It is likely to do some of both.

With such auspicious prospects as these for the decade as a whole, the construction industry should be able to take in stride the occasional years when expansion may falter. As Forum said a year ago, the outlook for building is so dazzling that the only troubling question is whether the economy can supply the men and materials that will be needed to make the goals attainable. If the economy can achieve these building objectives, it will have an unprecedented prop for prosperity not only for the next ten years but for all the decades beyond. END

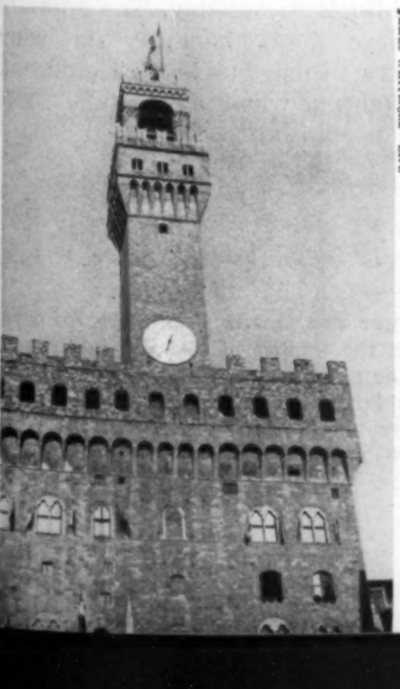
# Modern tower in old Milan





**Stone tracery** on the roof of the nearby Milan Cathedral (seen also in the background of the photo at the left) frames the bulging 26-story tower of the new apartment and office building nearby.

**Medieval towers** like that of the Palazzo Vechio in Florence (below), which the new Torre Velasca in Milan resembles, were bracketed out at the top so portholes in the floor between the brackets could be opened to drop boiling oil on besiegers below. If the Milan tower (left) were in a colder climate, it might drop equally lethal icicles on passers-by. Apartments occupy the wider upper floors, and offices are in the slimmer lower section.



JAMES WHITMORE—LIFE

# The Torre Velasca spreads out at the top like a medieval battlement—but it does so for very peaceful reasons.

A CRITIQUE BY G. M. KALLMAN

The new Torre Velasca apartment-office building in Milan, Italy does not adopt the typical form of a modern tower nor does it establish a prototype for a new form. Unlike Frank Lloyd Wright's Price Tower in Bartlesville, Okla. or Mies van der Rohe's Seagram Building in New York, it is not a self-sufficient structure that could be located anywhere. Instead, it is a valiant essay in the neglected art of fitting modern architecture into a historic continuity of building, within which it seeks its own status. Unlike most modern architecture, which is displaced, rebellious, and alien to its immediate environment, the Milan tower shows a definite response to the forms and figuration of its surroundings. Thus, it is natural that the building should be complex and crossbred in a manner both intriguing and disturbing, for this cannot be called as handsome a building as many that are far less important.

The other tall new buildings in Milan have been built in districts beyond the ancient center. In contrast, the Milan tower rises out of the narrow streets of the old city. As the one significant new volume in the area, it shares the sky line with the great Gothic pile of the Cathedral and its garish display of sculpture, pinnacles, and finials (photo, left).

This confrontation of the ancient and the new is both shocking and evocative. The memory-loaded camera of the eye at once registers associative images. The giant mushroom shape of the tower and the brackets supporting the cantilevered upper floors recall medieval machicolated defense towers. The cagelike appearance of the exterior frame is more reminiscent of Gothic structure than it is of skeleton frame and curtain wall. The arrangement of the parts in such a way as to emphasize the primary and subordinate the supporting elements, the effect of solidity and weight, and the hip roof all seem far removed from modern architecture.

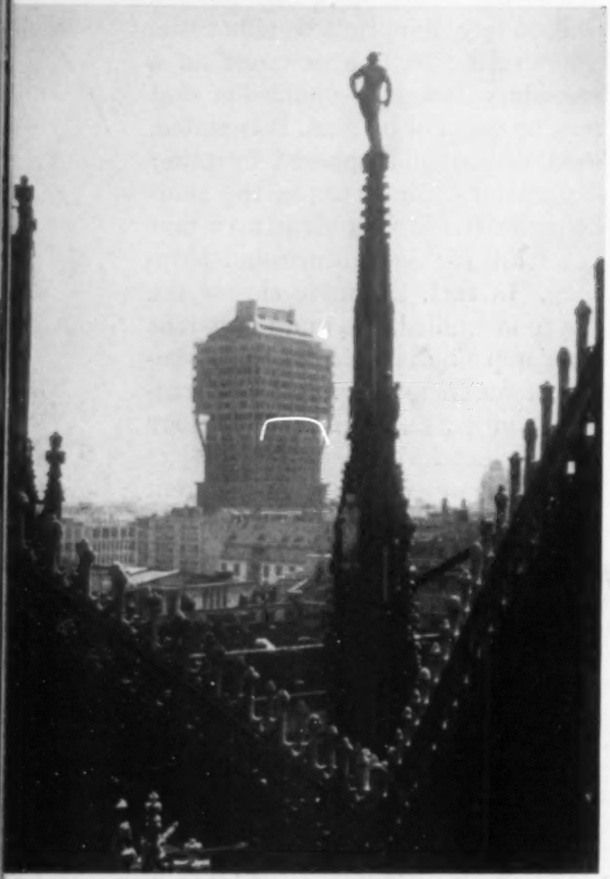
But the tower does not have a deliberately historicized silhouette. The archaic outline develops as a secondary image, a dimension that may or may not be read. It is stated, then denied and opposed by other associations, for example, the similarity to the artless structures that get built for agriculture and shipping. In fact, the more closely the tower is studied, the more apparent its complex dialectic becomes—between function and form, construction and ornament, new technology and ancient forms.

Instead of following the current urban pattern of Milan, in which new buildings match the old and follow the old street fronts, the tower is built in the center of its site, providing a vital contrast to its immediate neighbors. In terms of urban living, it provides another contrast. The combination of apartments and offices in one building resists the trend toward devitalization of the center of the city, which occurs wherever office buildings replace residential structures.

## Apartments over offices

Unlike Wright's Price Tower, which stacks apartments and offices side by side, the Milan tower carries its apartments *above* the offices. The latter are contracted into a narrower shaft under the larger apartment floors (larger to accommodate the more extensive internal service areas of the apartments). This disposition of volumes, narrow below and broader on top, gains precious ground for the plaza and compensates for the low site coverage of the building without an increase of building height beyond the permissible level.

The plaza derives its distinctive quality from the sheltering form and outline of the tower. Unlike recent free-standing towers in the U.S., such as the R.C.A. Building in Rockefeller Center and the new Seagram Building, which stretch straight upward toward infinity, the



**Penthouse** machinery rooms and ventilating intakes of the Torre Velasca stand only a few feet lower than the topmost pinnacles of the Cathedral (foreground).

Milan tower achieves a still point in space. This limiting of the height lends a humanized effect, which is supported by the projection of the exhibition hall into the open space of the plaza, thus anchoring the building to the ground.

The cagelike exterior structure of the tower neatly ties two different building volumes, one above the other, into a single system as it springs out, arborlike, connecting the slender stem and the broad head. This structure results in a varied bay size. In the stem, the two end bays on the broad side of the building are narrower than the three middle bays. In the head, the variation occurs on the short side, where the end bays are broader than the middle one. The fact that this transition is made to look easy is a triumph of design.

Taking full advantage of the plastic qualities of concrete, the exposed structural framework is molded with great refinement. Expressing the gathering weight it carries, this framework is wedge-shaped in cross section at the top, changing into a tee-shaped section in the lower shaft of the offices and, in turn, to a 3-foot-square pier at the base. Brackets, supporting the cantilevered apartment floors, develop out of the leg of the tee below; these are aided by slender braces below the overhang. Contributing to the articulate refinement of the framework are the doubled corner piers, which branch into splayed brackets at the top.

Whereas the typical curtain wall, which encloses a building without reference to varied interior functions, has developed general, mechanically repeated, and sometimes arbitrary graphic patterns, the envelope of the Torre is a specific weave of major structure, substructure, and wall. Behind the regular repetition every 5 feet of precast concrete mullions (which end as finials against the sky), a varied pattern of solid panel, reflective glass surface, and void is played. This game is particularly active in the top sector, where the balcony recesses are disposed irregularly and the wall face and openings are arranged to suit the apartments (photo, right).

**An impossible task**

But in the final analysis, this polyphonic composition becomes an aesthetic liability. The deliberately close tonal values of the wall panels and structural parts merge, so that in daylight the plastic qualities of the wall seem to dissolve. At a distance, the intricate qualifications and articulations of the façade are lost, and the overall volume of the building appears raw and at a disadvantage. The structure and the main volumes seem locked in a neutralizing struggle. Without the drama of irreconcilable conflict or the assumption of dominance of one over the other, the structure is reduced to an ephemeral scaffolding. The wall face, which seems too weighty and solid to need the support of the frame that embraces it, appears detached from the general thematic composition.

Perhaps the designers set themselves a task impossible to resolve completely. To develop significant architecture out of the complexities of modern life and the disciplines of construction is difficult enough. To add to this a sense of the continuity of time and place is a burden of responsibility assumed by very few architects in our day. The effort to achieve total harmony is what makes this building significant, though not wholly beautiful. END

**Larger apartment floors** are compared with the smaller office floors in the plan at the right. Hatched areas indicate baths. The larger area is needed in the upper floors to make room for kitchens, which were not required on the lower office floors.

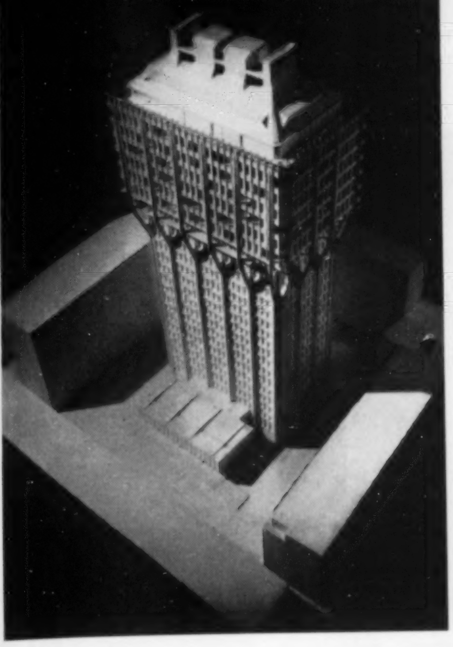
re-
and
are
ents

this
an
tely
nels
that
s of
dis-
ions
are
the
dis-
the
neu-
the
or
of
e is
ing.
too
sup-
s it,
eral

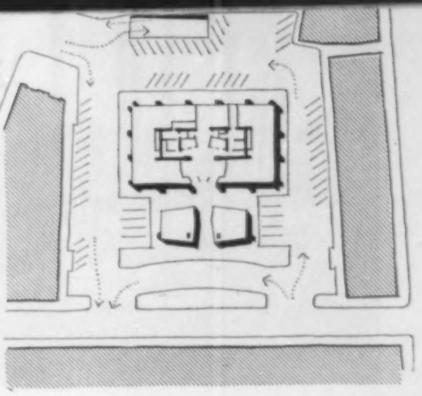
hem-
olve
cant
ities
es of
To
uity
f re-
few
t to
what
cant,
END

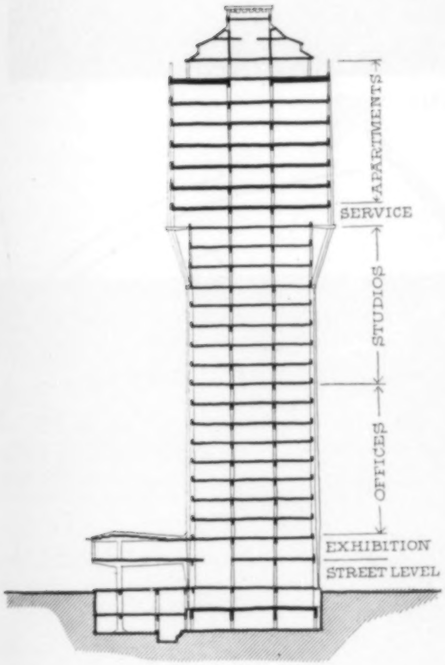
→

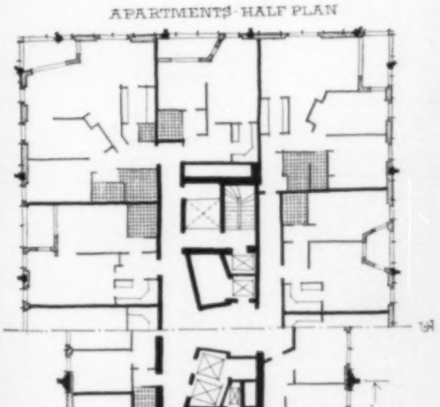
pared
plan
aths.
pper
which
office



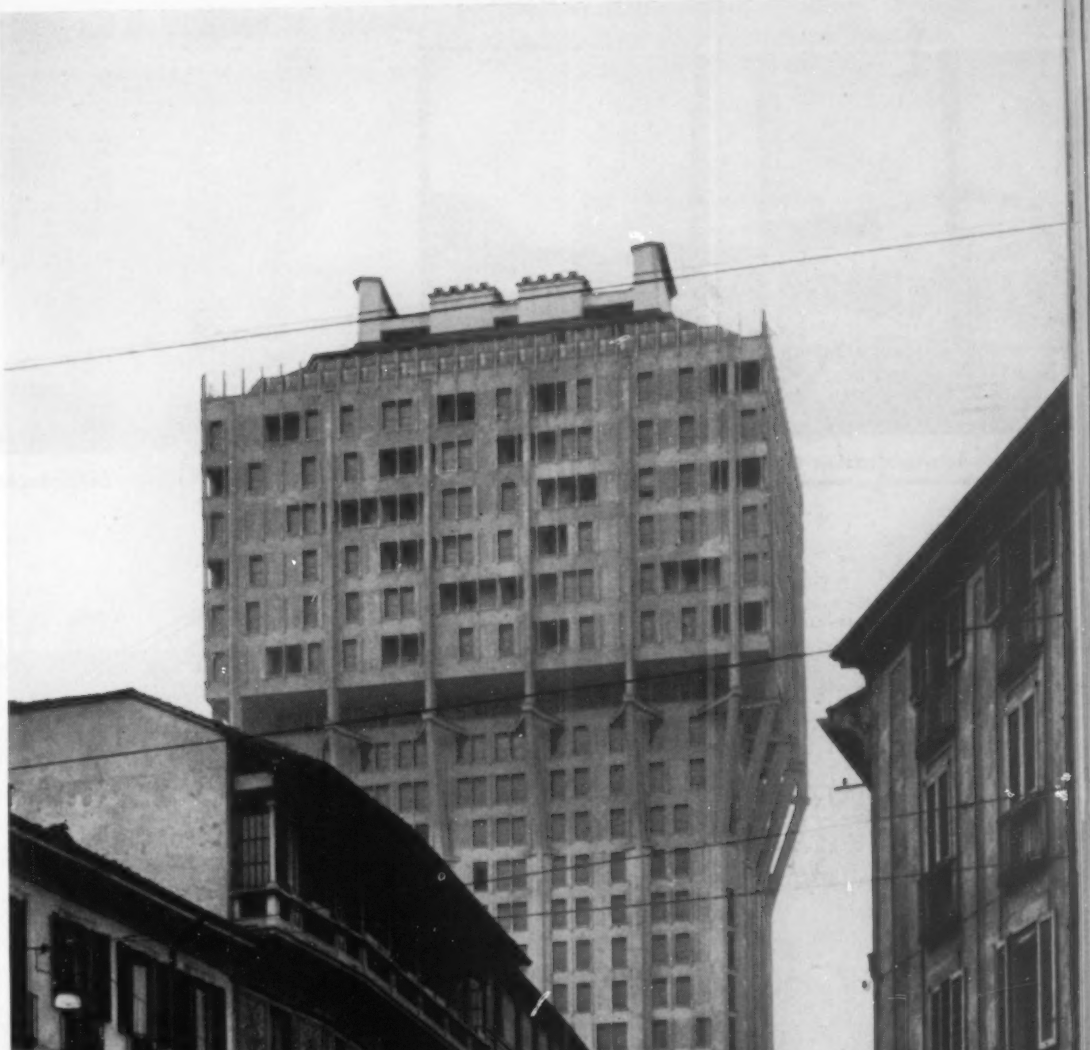
**Plaza** at the base of the tower (plan, right) gains precious space by virtue of the slimmed-down lower floors. In the plaza is an exhibition hall on stilts, which projects out from the second floor of the tower over the building's main entrance (model photo, left).




APARTMENTS
SERVICE
STUDIOS
OFFICES
EXHIBITION
STREET LEVEL


APARTMENTS·HALF PLAN
25'-0"
5'-0"
OFFICES·HALF PLAN

FARABOLA

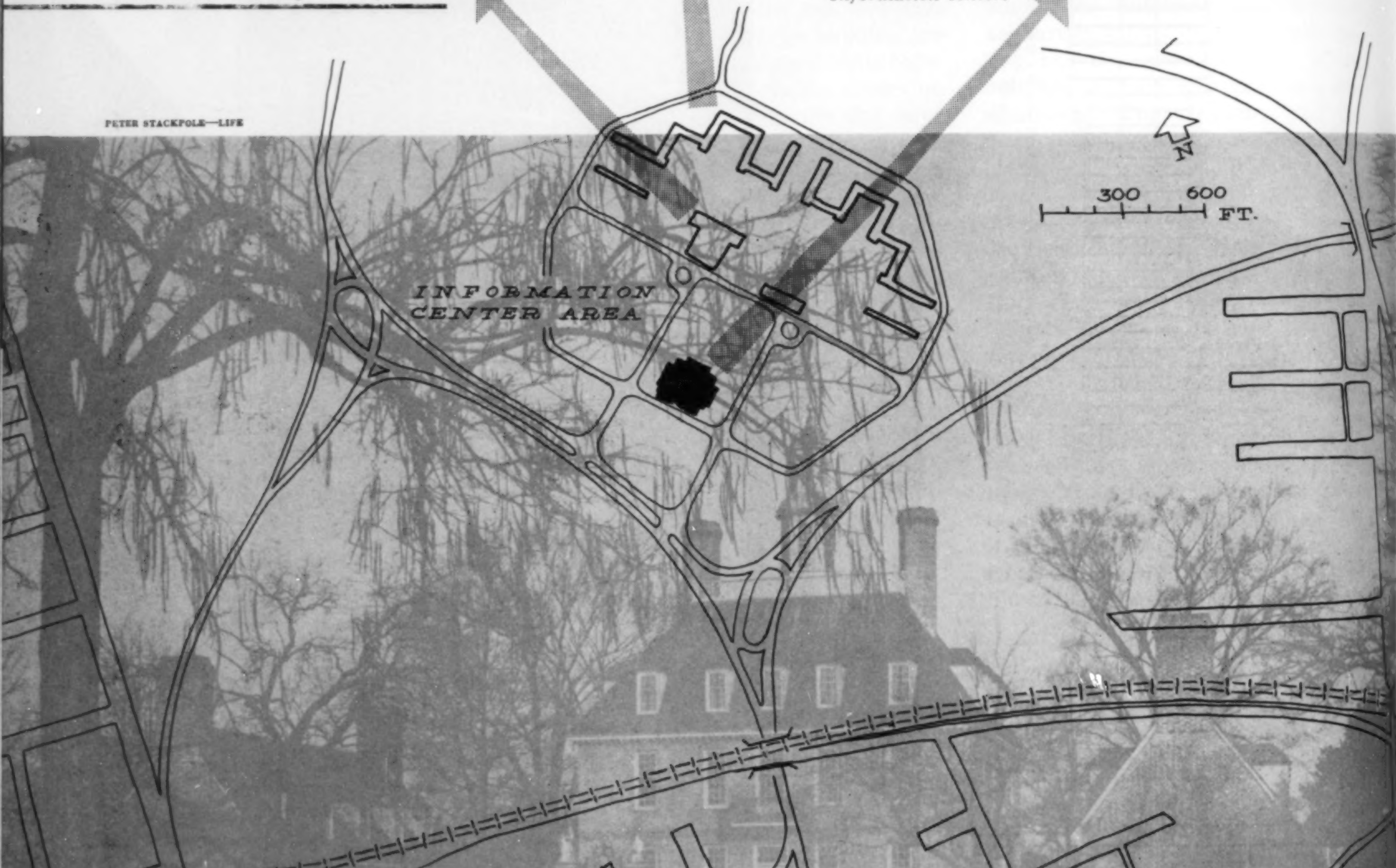


*Motel.*

PHOTOS: ROBERT C. LAUTMAN

*Administration building and cafeteria.*

*Information center.*



PETER STACKPOLE—LIFE

N
300
600
FT.
INFORMATION CENTER AREA
WILLIAMSBURG

# The approach to Williamsburg

Visitors enter Virginia's colonial capital through a contemporary information, exhibit, and theater center that serves as a bridge in time.

SEE
Williamsburg
A FREE MOTION PICTURE TO ENRICH YOUR VISIT

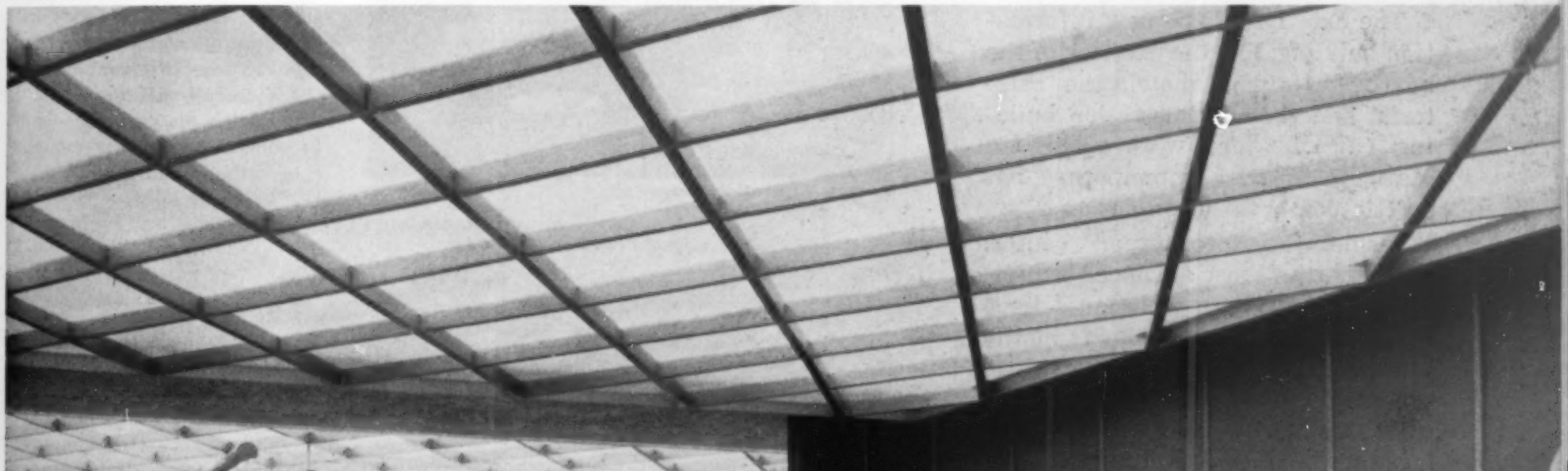
*Sheltered walkway from cars to lobby.*

Nowhere has a more persuasive image of America's past been raised than at Williamsburg, Va. Reconstructed from maps exhumed from musty attics and rebuilt on foundations revealed by patient excavation, the colonial capital of Virginia stands now substantially as it did before the Revolutionary War.

For John D. Rockefeller Jr., who spent $61.5 million on the restoration and its supporting facilities, and then endowed nonprofit Colonial Williamsburg, Inc. with funds now worth $34.6 million, the goal was clear: "I wasn't trying to recreate a lovely city nor was I interested in

*Questions of where to stay and what to see are quickly settled at the lobby information desks.*

PHOTOS: ALEXANDRE GEORGES



a collection of old houses. I was trying to recreate Williamsburg as it stood in the eighteenth century."

But the success of the undertaking threatened to spoil it. Soon after the restoration was started in 1927, visitors began coming to Williamsburg in increasing numbers (1.1 million last year). Their cars, parked bumper to bumper on Duke of Gloucester Street, threatened to destroy the illusion of the carefully restored part of the town. And the visitors, stepping from twentieth-century cars into eighteenth-century streets, had to make an abrupt transition without time to adjust.

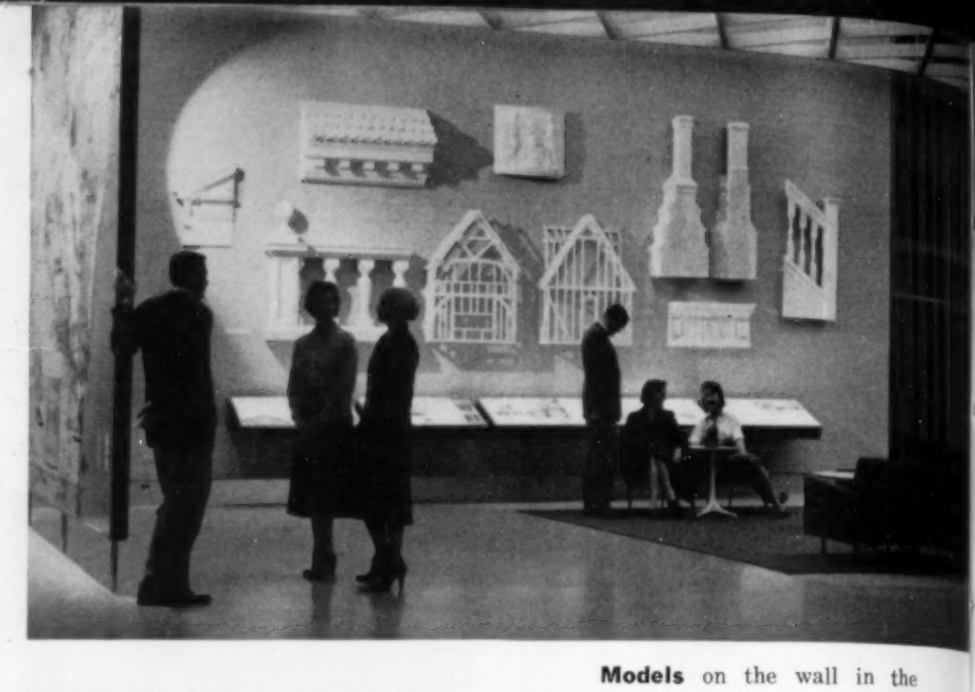
The solution to this illusion-destroying juxtaposition was to build parking lots for 1,000 cars on a 40-acre golf-course site one-half mile north of the restored area. Now, on leaving their cars, visitors approach the eighteenth-century town by way of an information, exhibit, and theater building before boarding special buses for the restoration area.

The exterior of the new information building, like the exterior of the nearby 216-room motel, the cafeteria, and the administration building (all of which were opened in March 1957), is contemporary but quietly conservative in design.

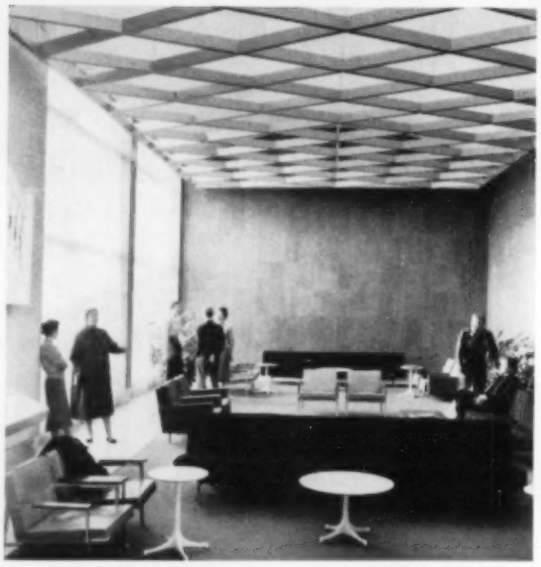
Inside the information center, however, the most advanced exhibit and theater design techniques have been used. The tourist starts at the brightly lit information area in the center of the building, where literature and tickets are dispensed at a large circular desk in the middle of the floor (plan, right). From here, the visitor can tour the exhibits, ride the escalators to the bus, or wait in one of the lounges on either side of the lobby for the next performance in one of the twin film theaters.

The total cost of the motel, cafeteria, administration, and information buildings, and the parking lot was $11.3 million. The Information Center alone cost $2.8 million; the exhibits and film, $1.1 million.

The fact that Colonial Williamsburg chose contemporary architecture for these gateway buildings should guide any city with a similar adaptation problem. Actually, it was more respectful of the past to use contemporary design than it would have been to build a sham copy. END



**Models** on the wall in the lounge illustrate eighteenth-century architecture and building techniques. A large map of the Virginia Colony, by Herbert Bayer, screens the lounge from the entrance.

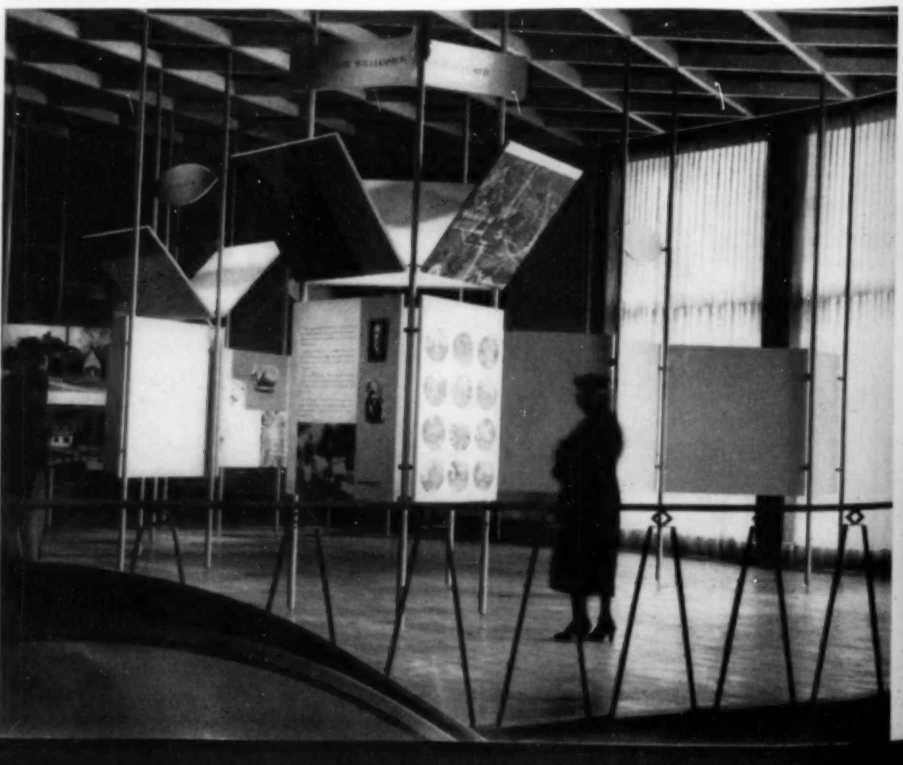


PHOTOS ABOVE: ALEXANDRE GEORGES

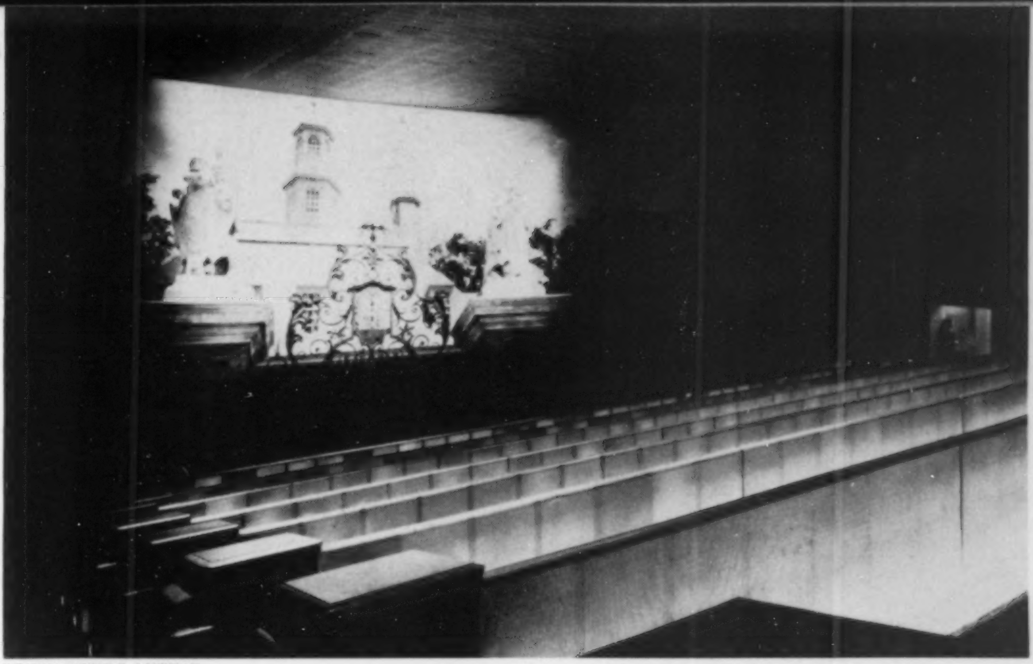
**Ceiling grid** of extruded aluminum channels extends throughout the information area. In the lounge (left) cold cathode light strips are set inside the channels to throw soft illumination against the ceiling. In the information area the diamond-patterned grid is fitted with an egg-crate baffle to conceal the ceiling-mounted cold cathode tubes.

**Display panels** in the exhibit area are fastened to grooved poles, positioned between intersections in the grid and sockets in the floor. Grid-connected spotlights provide high-contrast lighting on the exhibits.

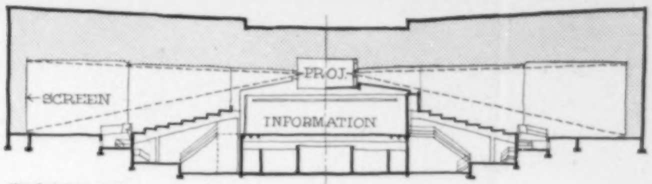
COURTESY COLONIAL WILLIAMSBURG



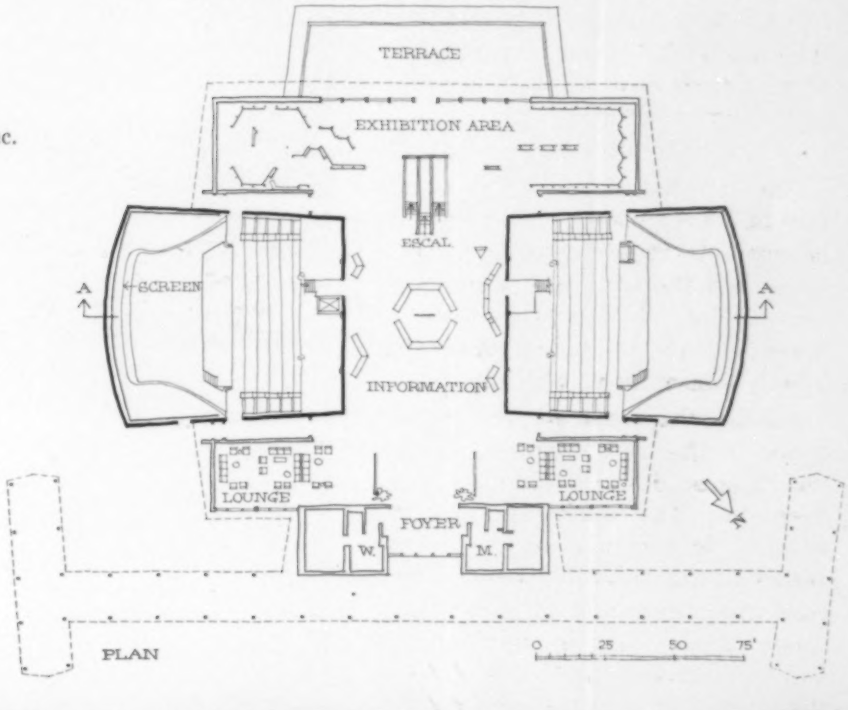
**Twin theaters,** each seating 250 people, flank the exhibit area and allow one projection room to serve both (see section, right). The theaters operate continuously on a 20-minute alternating schedule, showing a 35-minute, wide-screen movie about eighteenth-century Williamsburg. The compound curve of the 120-foot-long screen (see plan) results in "vignetting" or edge fading of the picture (photo, right), which heightens the impression of realism for the spectator. Between the seat rows, 3-foot-high baffle walls are inserted to screen the backs of viewers seated ahead. Distracting influences were further subdued by the simple design of the room and the monochromatic gray tones.



PHOTOS: ROBERT C. LAUTMAN

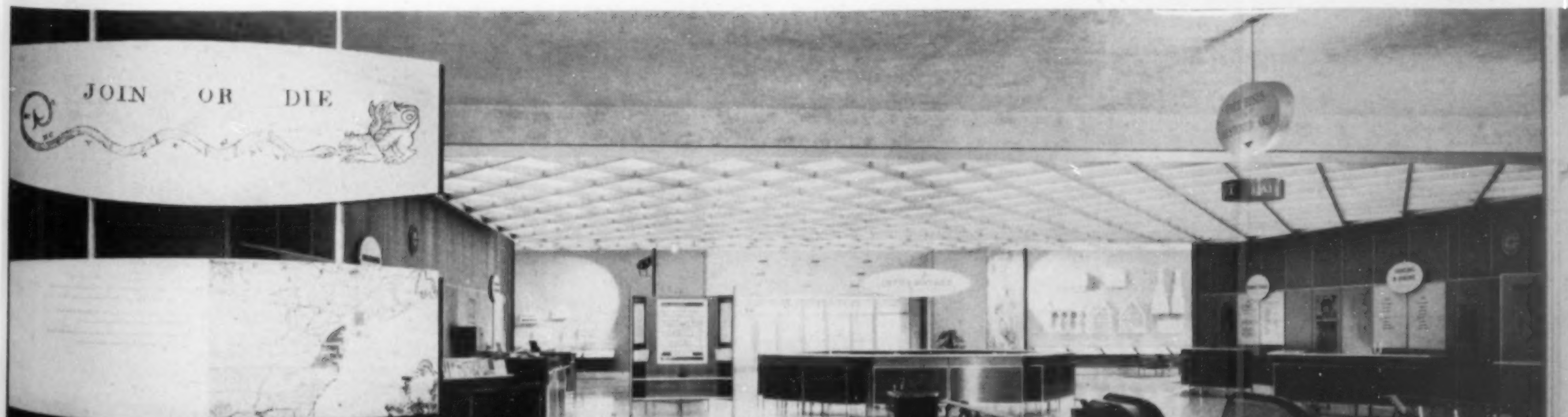


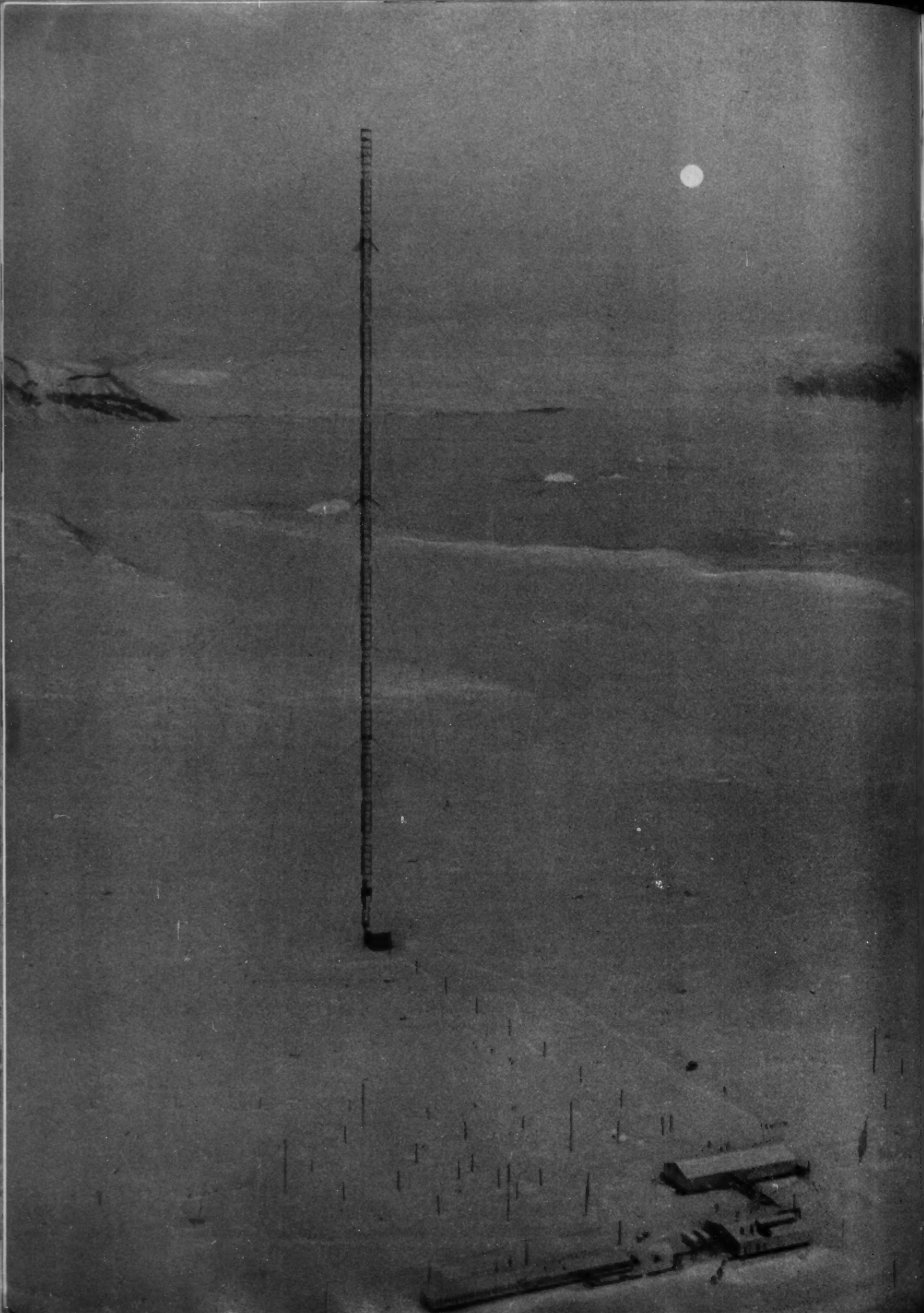
SECTION A-A

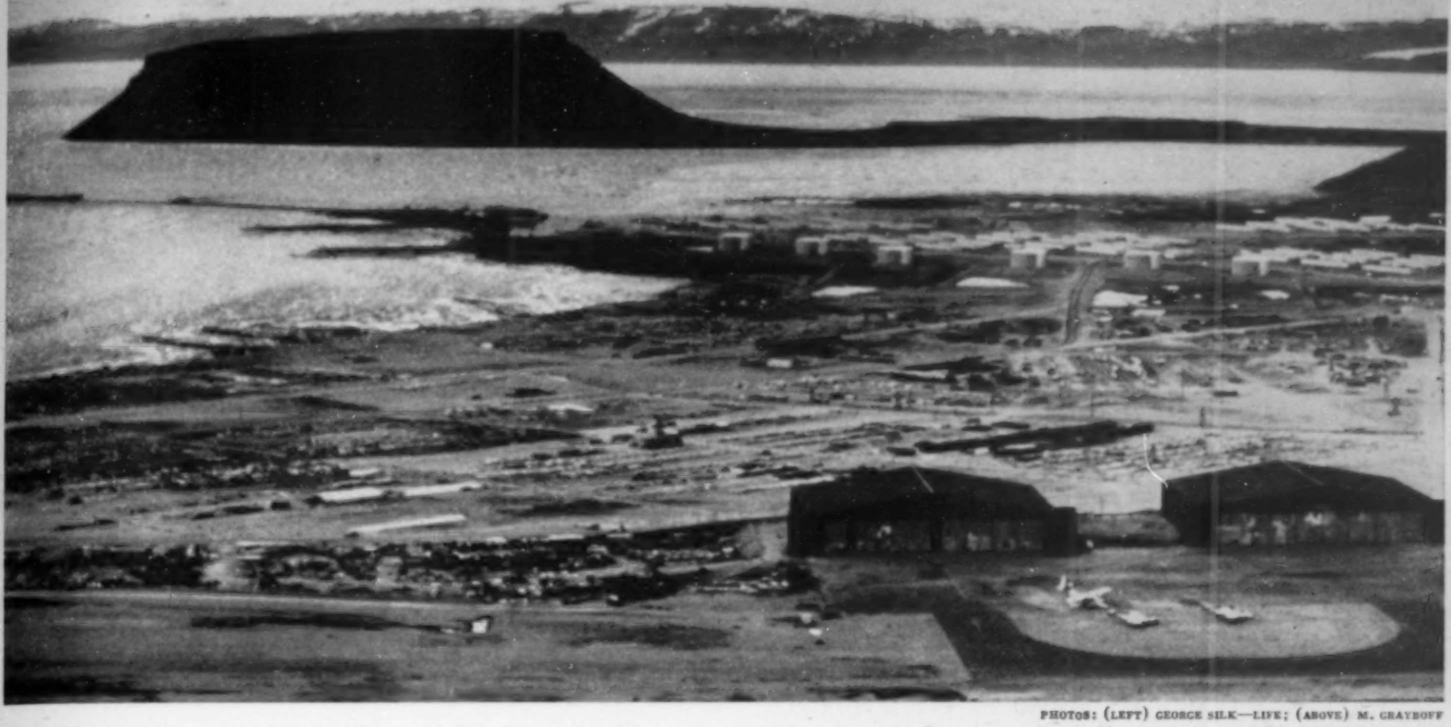


INFORMATION CENTER, Williamsburg, Va.
ARCHITECTS: staff architects, Colonial Williamsburg, Inc.
ENGINEERS: Cleverdon, Varney & Pike (structural)
Wiley & Wilson (mechanical-electrical)
CONSULTANTS: George Nelson & Co., Inc.
(interior and exhibit design)
Ben Schlanger (theater design)
Gerald B. Ewing (lighting)
Bolt, Beranek, & Newman, Inc. (acoustics)
Wilbur S. Smith & Assocs. (traffic and parking)

**Escalators** (right in photo, below) carry visitors from the exhibit area to the lower-level lobby (top of plan, right), where they board buses for the trip to the restored area.







PHOTOS: (LEFT) GEORGE SILK—LIFE; (ABOVE) M. GRAYBOFF

## Technology. The enormous U.S. airbase at Thule above the Arctic Circle is a great feat of architecture and engineering.

# Building below zero

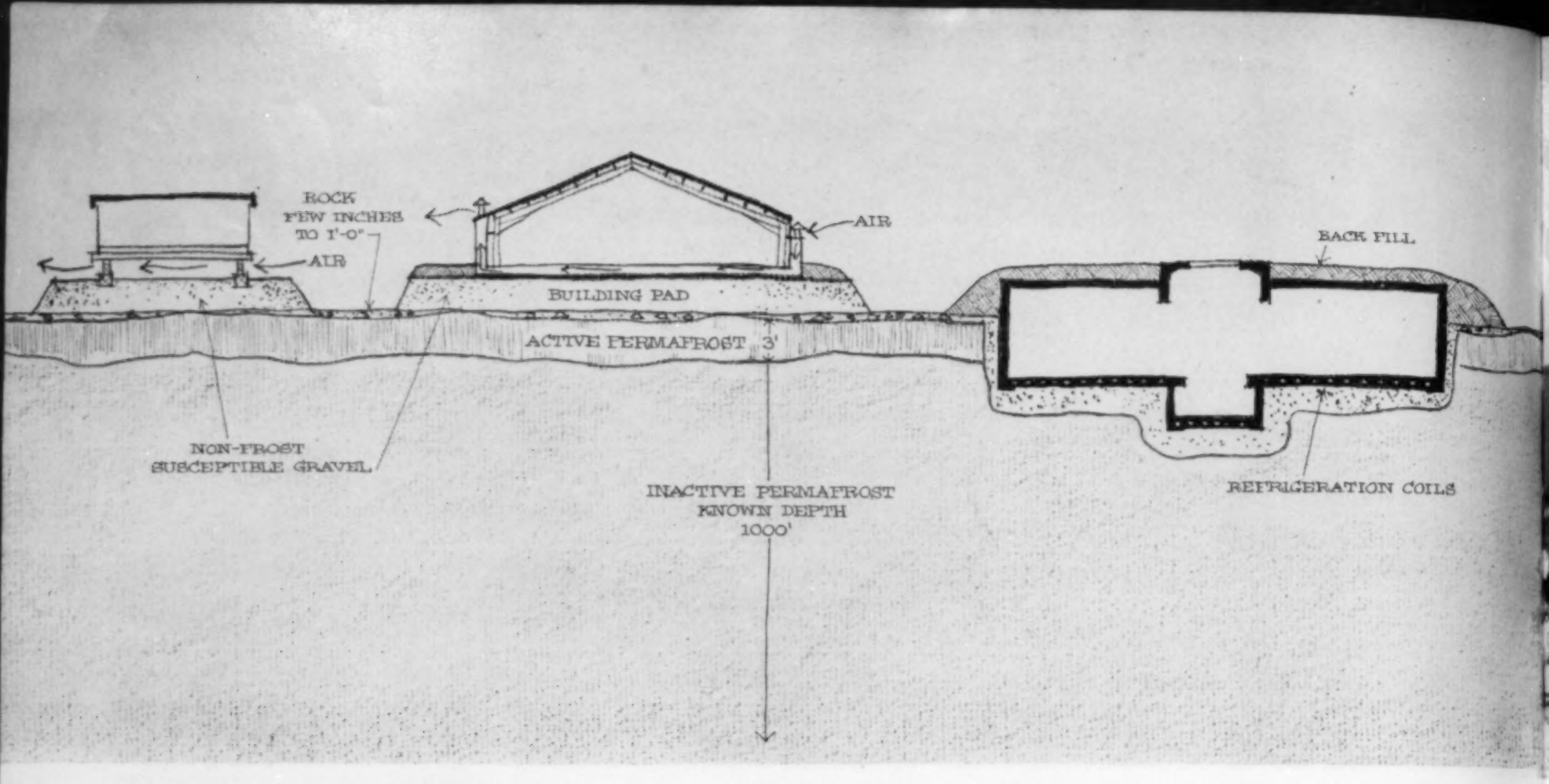
Thule Air Base, firmly affixed over 100 square miles of Greenland's arctic crust, is more than a military outpost, the northernmost of major U.S. bases. It is an architectural and technical feat of heroic proportions, carried out jointly by the firms of Metcalf & Eddy, La Pierre, Litchfield & Partners, and the U.S. Army Corps of Engineers. It is also a natural laboratory for proving structures and materials under extreme conditions that may, nevertheless, have more application to domestic construction than might first appear, and that has already proved useful in designing other remote bases. Some of Thule's lessons may even apply to setting up beachheads in outer space.

For Thule has features remarkably resembling those of the moon. Knud Rasmussen, who explored the area in 1910, found it a kind of lunar crater, sheltered by huge boulder hills from winds off a gigantic ice cap at Greenland's northern tip. He named it after the Latin *ultima thule*, meaning a land beyond the beyond. Rasmussen transmitted his dream of a polar way station here to another Arctic explorer and young flier, Bernt Balchen, in a Third Avenue bar in Manhattan the night after Lindbergh hopped the Atlantic. Balchen remembered it in World War II. As an Air Force colonel, he guided construction of an emergency air strip on Thule, and during the Korean War, he persuaded the Air Force that this barren sea-level plain, kept miraculously snow-free by its windbreakers, would make an ideal air base.

Late in 1950, with the consent of the Danish government, a crash program was mounted whose object was to build a working air base on Thule before the close of the next, short arctic summer. (The only accommodation was that the sun would be up 24 hours a day.) This meant planning and prefabricating buildings in the U.S. for a huge air and icebreaker lift to a site just 890 miles short of the North Pole. Nine months later over 400 buildings had been erected, including 114 barracks, 6 big hangars, and 15 huge fuel tanks. A year later the base was substantially completed. Since 1952, building has been going on continuously (last season 1,200 U.S. and Danish workers went in and came out) but at a more leisurely pace, while designers continue to experiment and study their mistakes.

Many of the original buildings have not taken gracefully the buffeting of Thule's horrendous but weirdly beautiful environment. The problems were tremendous and, to most of the architects and engineers, unprecedented. First, there was the barren unyielding earth, frozen to great depth in a mixture known as "permafrost." Then there were winds up to 145 miles an hour and temperatures down to 50 degrees Fahrenheit below zero, which in summer could yet reach 70 degrees Fahrenheit and to a sizzling 120 degrees Fahrenheit on reflective aluminum roof panels, causing mastic sealants to bubble and drip. At the same time, in all seasons there was a steady, dry 3 per cent humidity, acting as a cold kiln, pulling moisture from lumber and all resilient materials. All these conditions together posed great challenges to design. Parted roof joints and warped panels were among the worst failures, and the architects now realize that fewer modifications would be required today if there had been more research and technical information available originally. But that

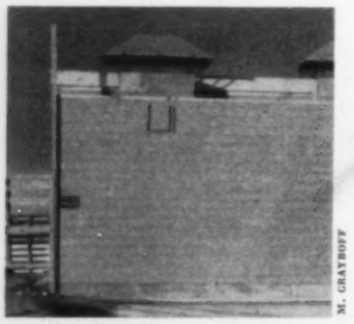
THULE RADIO TOWER, almost as high as Empire State Building, is braced against 150-mile winds by 18 guy wires in three tiers.



**PERMAFROST** (frozen subsoil) foundations must be kept from thawing by putting heated buildings on stilts, ventilating or refrigerating floors.

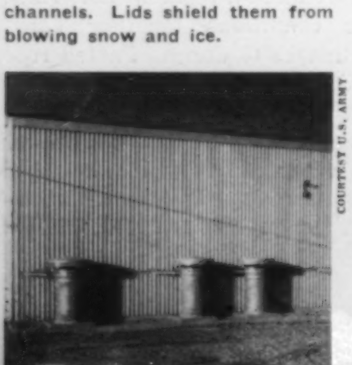
COURTESY U.S. ARMY

**VENTILATION DUCTS** of precast concrete and other materials are formed in foundations of heavy utility buildings.


M. GRAYBOFF

**WALL INTAKES** are placed high on lee of building, low on windward to induce downdraft of cold air through floor.

**SNORKEL VENTS,** shaped like ash cans, connect with underfloor channels. Lids shield them from blowing snow and ice.


COURTESY U.S. ARMY

is a deficiency which their own work is lessening for the future.

### Frozen quagmire

Permafrost was the first and most serious problem. Permafrost is a mass of glacial ice, stone, and organic rubble covering immense areas in northern latitudes, including large parts of Alaska. It comes in two troublesome varieties, usually together: a top or active zone, averaging 3 feet thick at Thule, which thaws and refreezes with the seasons; and below this, an inactive layer, about 40 per cent fossil ice, which may go as deep as 1,000 feet. Permafrost cannot be dug or bulldozed, but it can be dynamited, with some trouble, for the inactive layer, once exposed, forms another inconstant active zone. All previous research on permafrost, of which there has been considerable in Canada, Russia, and at a U.S. government laboratory at Winnetka, Ill., showed that it has great load-bearing qualities, provided it is thoroughly insulated or isolated from the warmth of the buildings erected on it. Heat turns it into a quagmire.

Hence the designers of Thule raised their first lightweight buildings up on short stub columns, over a gravel ground cover, so as to allow arctic ventilation beneath the floors to keep the permafrost permanent. For warehouses and other heavier buildings, which could not be raised conveniently on stilts, they devised thick, gravel-bedded concrete-slab floors in which were embedded sundry pipes, tubes, and conduits, drawing in cold outside air from side-wall vents and chambers. In the rib-slab technique, ducts were formed directly in the masonry by laying down corrugated metal pans before the pour to create continuous hollow runs. (This was direct but crude floor ventilation, with snow often getting down the vents to freeze up airways until spring.) For huge hangars, the permafrost had to be compromised by blasting excavations for deep piles, then filling in around them with rock and water. The man-made mixture, simulating permafrost, was then allowed to freeze, thereby matching the density and bearing value of the surrounding inactive layer.

Last season, given the task of laying down launching sites for short-range missiles, the designers made a much more sophisticated approach to permafrost. Since the launching chambers, concealed by backfill, had to be absolutely rigid, and no air snoots could stick up, the designers had to provide a positive means of keeping the earth solid that would not be subject to weather change. Recalling that cooling coils had once been buried directly in sagging permafrost at another Greenland base, the engineers built freon cooling coils into the foundations to keep the whole site stable by mechanical refrigeration. One proud engineer noted that "some limp problem soils back in the States could be isolated around footings and kept solidified with coils. Why, the last legs of the Jersey Turnpike might have been a

COURTESY U.S. ARMY

CURTAIN-WALL PANELS are hung on rigid steel frames for new utility buildings and barracks. Corrugations in the panels vent air and moisture.

lot easier to put down in a permafrosted swamp."

**Arctic walls**

In 1950, when the architects first decided on their major building project — some 10 acres of barracks — they fastened on the idea of prefab units light enough to be flown in and swiftly erected by two-men crews. But, in addition to all the design limitations imposed by material shortages, military manuals, and the haste of war, the architects discovered in 1950 — unbelievable as it may now seem—that not one building manufacturer was prepared to turn out the 2 million or so modular, sandwich-wall panels needed.

They finally found a Connecticut manufacturer of outdoor walk-in refrigerators, the Clements Panel Co., which was making a panel approaching their needs. Clements put its whole production line for four months on rushing out the panels — aluminum on ¼-inch plywood with glass-fiber filler — in 200 variations on the 2-foot and 4-foot modules, in lengths up to 10 feet. Since timber or steel framing would take too much transit space and time to erect, it was decided to use the demonstrably strong panels as load-bearing walls, floors, and partitions. For roofs, the architects worked out a flanged aluminum panel system, again because they could find no manufacturer to supply or guarantee a conventional built-up roof for the Arctic.

The architects selected the Clements panels mainly because ingenious jointing made these practically weather-tight. But the architects underestimated the Thule weather. As it turned out, the Arctic winds racked the panels, and whatever joint compounds did not shrivel in the cold, oozed out in the beating summer sun. Ice mist got into the roof seams, soaked into the dried-out plywood, and froze there to buckle the panels in winter and cause them to leak in summer. Too late the architects discovered that weather-tightness was an unnecessary goal. The solution was not to fight but to live with the

LIGHT SANDWICH PANELS form self-bearing walls, floors, and roofs of early Thule barracks. They were first U.S. production run of such units.

GEORGE SILK—LIFE

forces of nature, a point as valid to the South as to the North.

The newest barracks at Thule observe this principle. They are pitched-roof, rigid, steel-framed structures, hung with corrugated metal curtain-wall panels, which are allowed to breathe. Any moisture that forms inside drips down and out through the ribs in the metal. Ribs in the roof panels are also left unsealed at each end to allow natural passage of air and moisture. The architects are following the practice of native Greenlanders, who for many years have kept their snug, wood-frame houses dry by leaving large openings in the attic for wind and snow to blow through.

### Native stone

Of all the designs and materials tried, the one that seems to fit best into Thule's awesome landscape is concrete, which has been used for many of the larger structures. Compared with these, neighboring metal prefabs look forlornly shop-born. Concrete construction at Thule has followed two methods, one precasting, the other casting in place.

Handsomest by far, with a stone sturdiness suiting the primeval setting, are four structures used for storage and service clubs, which were erected in 1956. They are built of precast *Schokbeton* — Dutch for "shock concrete." This unusual casting system, devised in Holland and gaining wide use in Europe, consists of precasting building units on a vibrator, a shock treatment that densifies the mix and produces components of exceedingly spare, strong, and precise dimensions. Structural frames, as well as wall-panel and roof sections, are thus produced. For Thule, heavy columns, girts, beams, and panels were cast in Holland, brought in by ship, then maneuvered and fitted together (opposite page) like the great stone slabs of Stonehenge.

Preset connector devices make the system unique. Anchor bolts at column footings act as leveling screws to compensate for minor variations in beam length. Dense mortar is packed around column and beam connectors and allowed to cure; then each bolt is tightened to a stress of 8,000 pounds per square inch. The resulting mechanically linked system has a useful duality. In assembly, enough margin for play is provided for sectional construction; yet the completed building, mortared at all seams, has the strength and rigidity of a post-tensioned monolithic structure.

The *Schokbeton* buildings have withstood without a crack one and a half cycles of Thule's worst weather, and have otherwise proved excellent structures. But for Thule their big disadvantage is cost: one 2-acre warehouse cost about $6 million, including shipping charges. Yet the Thule buildings may serve to introduce this style of construction to the U.S., where *Schokbeton* is unknown, but where it might bring to concrete the neat precision that metal-panel construction has.

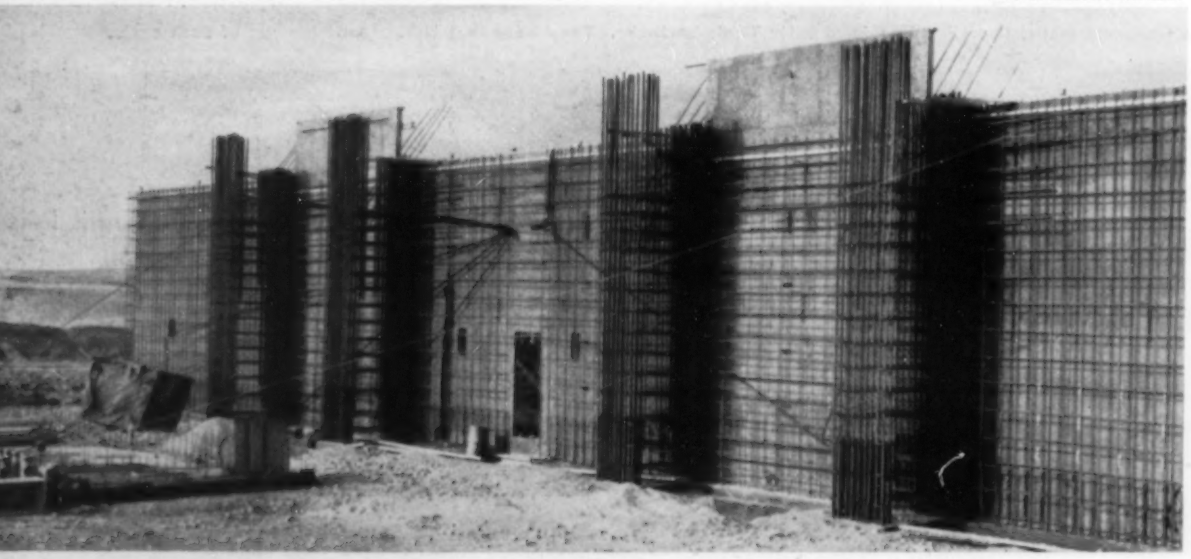
The biggest part of Thule's recent construction, however, has been poured-in-place concrete. The engineers have been steadily sharpening their techniques under arctic conditions and are now working a nearby rock mountain for coarse and fine aggregate to save on transportation. Last season some 28,000 cubic yards of concrete were poured—about double the amount going into a huge skyscraper foundation, such as the one for the new Chase Manhattan Tower in New York — often in high winds and near freezing temperatures. To extend the building season, Thule's contractors may next year try pouring under big polyethylene plastic tents to keep off wind and cold.

### Changing climate

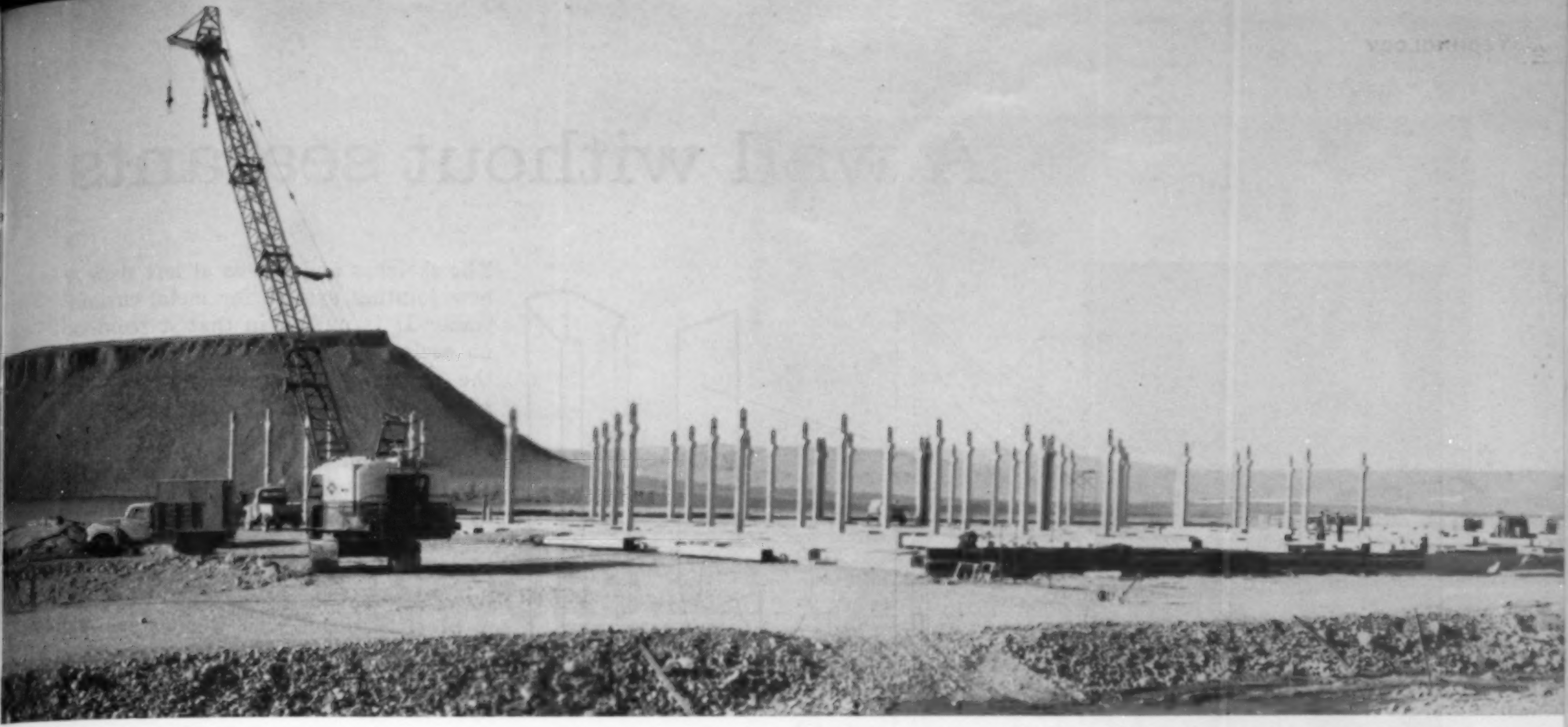
As more and more amenities of civilization have been brought into the barren site — including a chapel, bowling alleys, indoor plumbing, and television — Thule becomes a symbol of man's ability to inhabit and ameliorate any environment, however harsh. Indeed, the mere presence of buildings and men on Thule's once empty plain is already changing its local climate. The heat-mirror effect of large areas of aluminum has raised summer temperatures 5 to 10 degrees above the previous average, sending clouds of warmish air and fog over the bay. The clouds in turn are "seeded" by road dust and smoke from an asphalt plant to precipitate the first rains ever known in the area. Each season, the 4-inch-high Arctic willow trees grew more abundant.

Of course, Thule has more practical portents, even aside from its military values. It is a strategic weather-observation station, keeping a sharp eye on the easterly moving weather that is a dominant element in the climate of Europe and a key factor in commercial air traffic over that part of the globe. It is also a forerunner of the kind of air stations that will be needed for peaceful jet traffic by the short route over the Pole. And it is above all an outpost for that day, seriously predicted by many Arctic explorers, such as Vilhjalmur Stefansson, when the Arctic will open and blossom under human development. But as of today, Thule Air Base is simply a monument to man's unprofitable courage, resourcefulness, and endurance. END

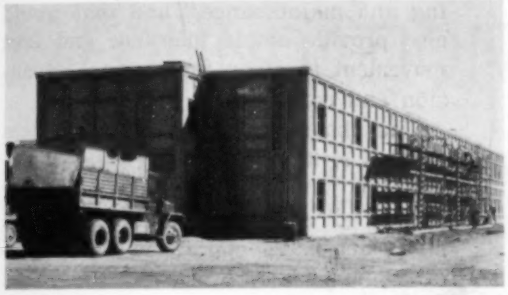
PHOTOS: COURTESY U.S. ARMY



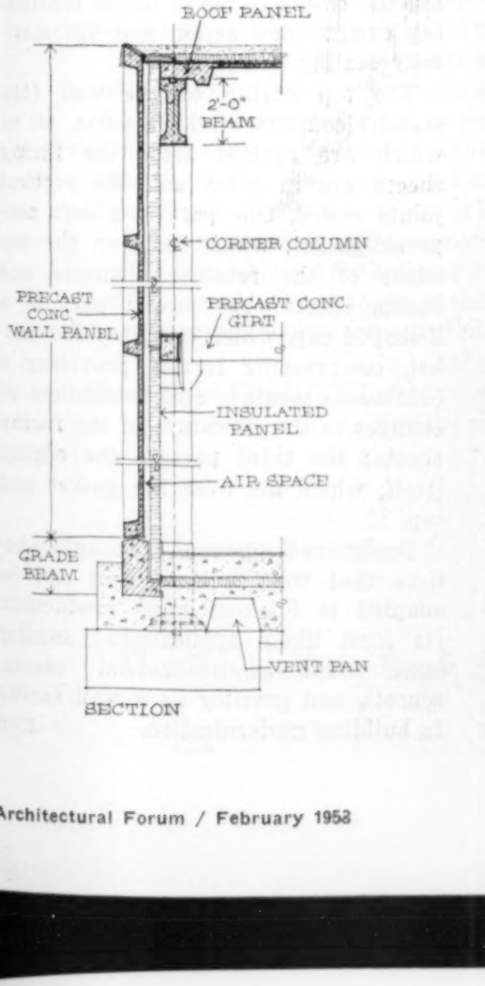
SHORT-RANGE MISSILE SITE going up presents a fortresslike appearance. The concrete reinforcing bars covering its face are welded for absolute rigidity. Such structures take huge volumes of concrete, plus over 60,000 cubic yards of earth backfill to cover the completed building from view.

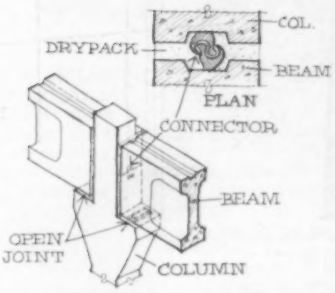


**COLUMNS** of Schokbeton, set plumb on base plates bolted to footings, form first elements in this Dutch precast structural system transported by ship to Thule.

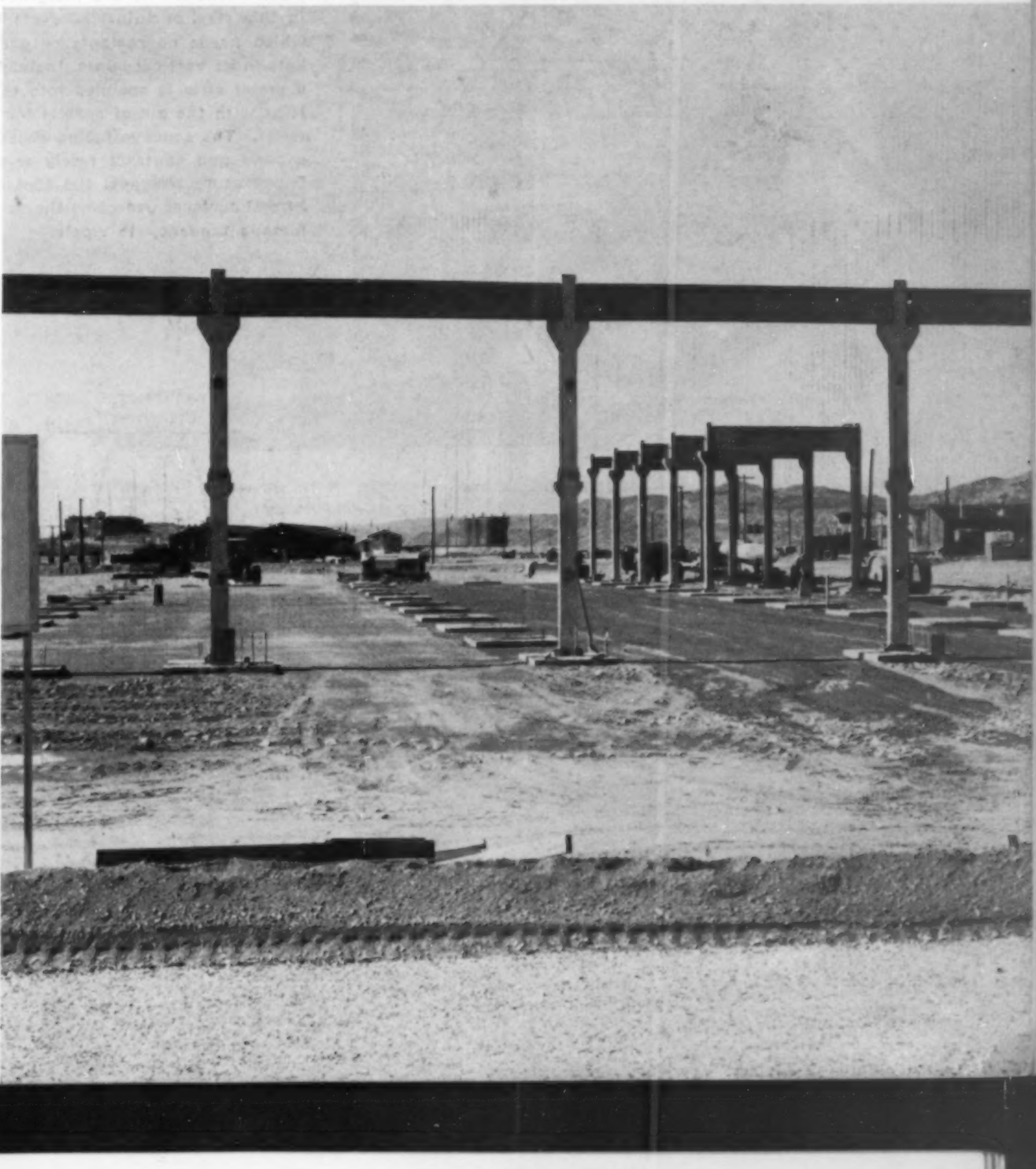


**BARRACKS** of Schokbeton, or densified concrete, show neatness of this thin, hung masonry-panel construction. Below is cross-section detail of wall showing interior insulating panel.

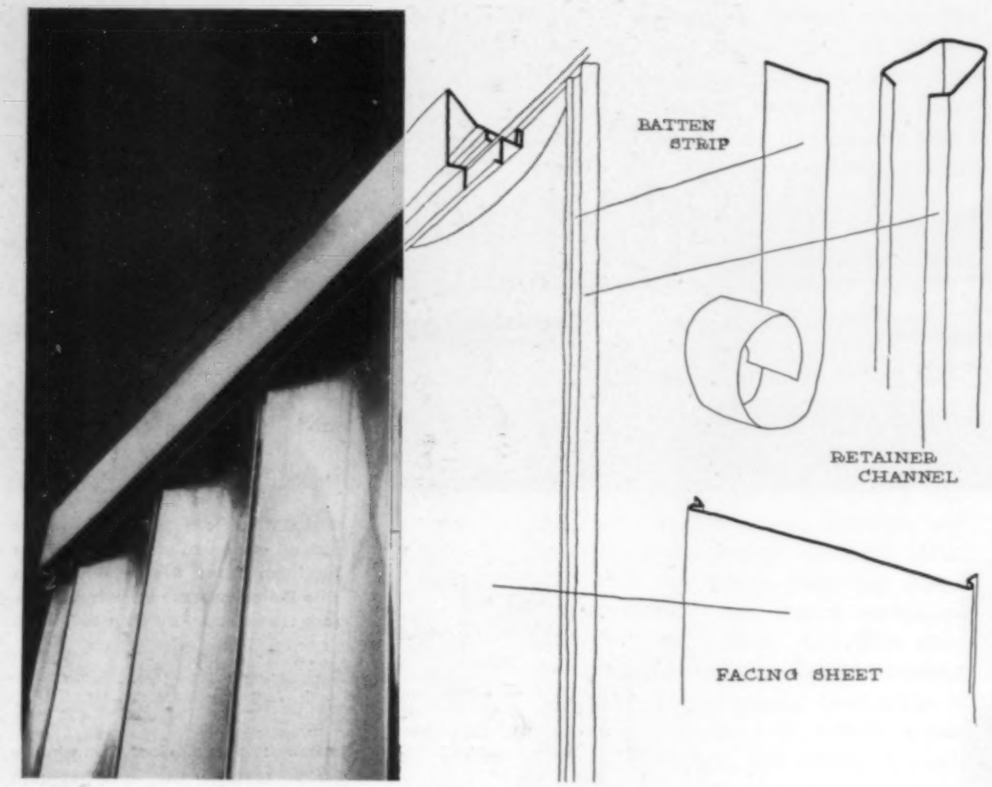

ROOF PANEL
2'-0" BEAM
CORNER COLUMN
PRECAST CONC. WALL PANEL
PRECAST CONC. GIRT
INSULATED PANEL
AIR SPACE
GRADE BEAM
VENT PAN
SECTION


COL.
DRYPACK
BEAM
PLAN
CONNECTOR
BEAM
OPEN JOINT
COLUMN

**BEAMS** for 20-foot warehouse bays (below) fit into column notches. Left is detail of column-beam joint. After mortar is packed around connectors and cured, anchor bolts are tightened to prestress the frame.



# A wall without sealants



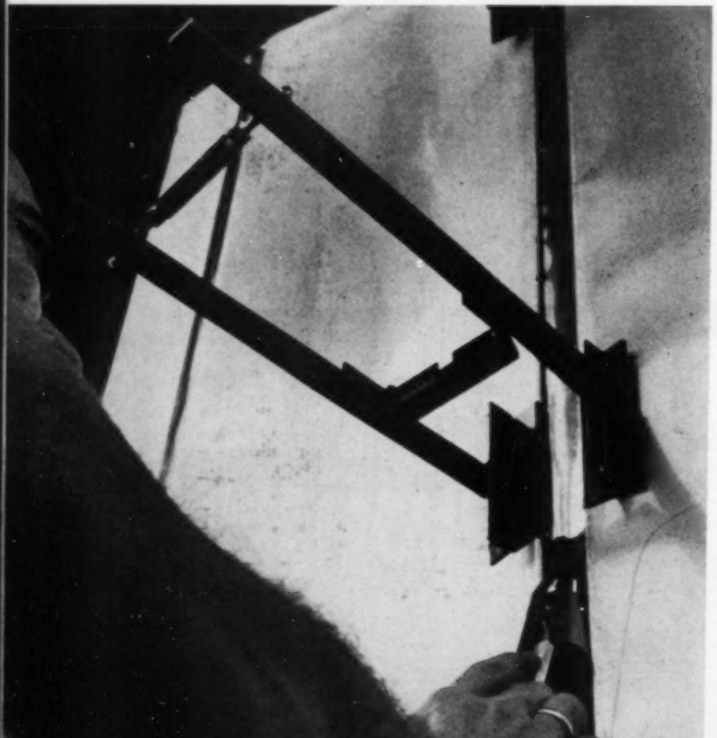
The sketches and photos at left show a new jointing system for metal curtain walls. It is unique in that it requires no sealants and few gaskets; instead, the system takes advantage of the strength and durability characteristics of its key metal, stainless steel.

The system was developed at Princeton University's School of Architecture by Architect Wayne F. Koppes and Director Robert W. McLaughlin, under sponsorship of the Stainless Steel Producers Committee of the American Iron & Steel Institute. The aim of the development, which is one of nine undertaken by the school under Institute sponsorship, was to design a jointing system that would be weather-tight, yet free from "the usual difficulties of sealing and maintenance," and that would also provide ample tolerance and free movement to allow for thermal expansion and contraction.

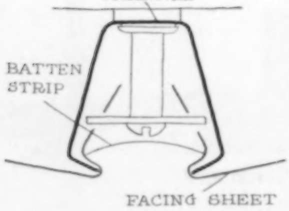
The basic parts in the system (sketches, left) are the retainer channel, the batten strip, and the facing sheets. The channel and the batten strip, acting in opposition to one another, are clamped around the rolled edges of the facing sheets. As the photo (bottom, left) shows, the batten strip is placed within the channel by the use of a spreading device, which forces apart the curved edges of the facing sheets. When the spreading device is removed, the pieces of metal begin to act upon one another: the batten strip, now arched in compression, forces against the facing sheets, causing the sheets to curve under continuing compression action and automatically sealing the joint.

The top edging of the wall (top sketch) consists of three parts, all of which are applied after the facing sheets are in place and the vertical joints sealed. One part is a soft neoprene gasket, which rests on the top edges of the retainer channels and facing sheets; the second part is a Z-shaped cap, which sits atop the gasket, compressing it and providing a continuous weather seal, regardless of changes in the curvature of the facing sheets; the third part is the edging itself, which fits over the gasket and cap.

Designers Koppes and McLaughlin believe that their curtain wall can be adapted to low-cost mass production. Its most likely applications: smaller office buildings, industrial plants, schools, and possibly as a wall facing in building modernization. **END**



**COMPRESSION** is the integrator in this steel curtain-wall system, which needs no sealants or gaskets in its vertical joints. Instead, a metal strip is snapped into the joint with the aid of special tools (left). The concave facing sheets expand and contract freely with temperature changes; the sheets' curved surfaces overcome the thin metal's tendency to ripple.



A
SOUND
BACKGROUND
IS A
SOLID
FOUNDATION

Behind the creation of any structure lies a lot of thought, planning and experience. Architects, builders and clients must rely on an infinite number of factors in making the important decisions on which every building will depend.

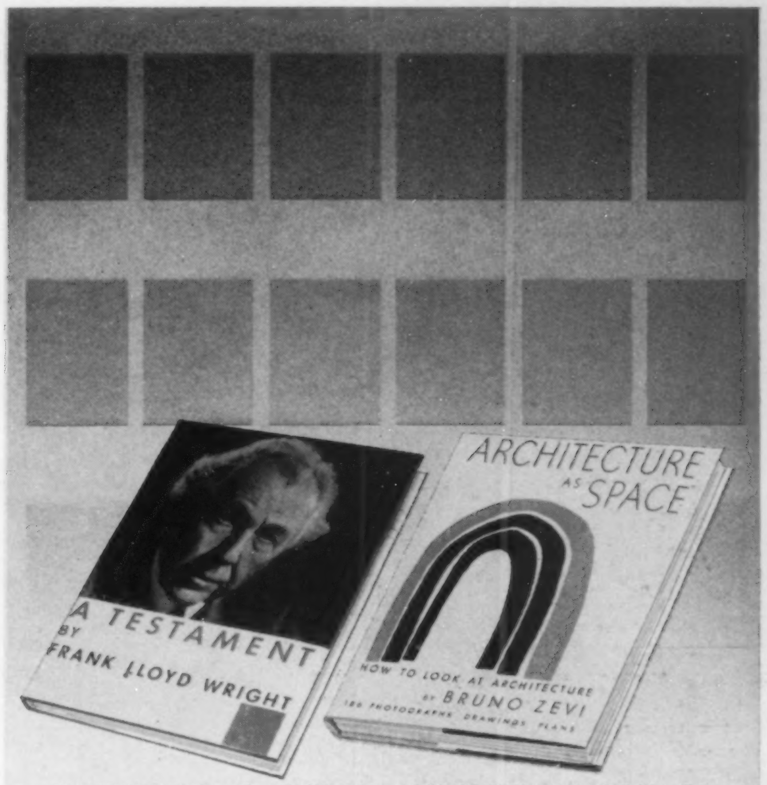
Basic books on Architecture and Art like those shown here belong in the library of everyone concerned with the creation and construction of useful, meaningful, and beautiful buildings.

The Seven Arts Book Society invites you to accept as a FREE gift your choice of these beautiful books. With your *free* book we will send you your choice of any of the other books shown here at the special membership price. Each month you will receive the beautifully illustrated *Seven Arts News* containing an authoritative review of the selection. If you agree that it would make an important addition to your office or home library, you need do nothing; it will be sent to you automatically. If you choose to substitute another of the many titles offered—all at special low membership prices, *or* if you choose to receive no selection at all, simply designate this on the enclosed reply card.

The foundation of the building you do will be strengthened by a knowledge of the work of the masters and an added awareness of the best which has come before.

Choose your FREE GIFT and first selection and mail the coupon today.

**The Seven Arts Book Society, Inc.**

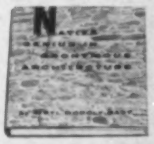


**A TESTAMENT.** By Frank Lloyd Wright. *9½" x 12½", 210 ills.* The first book in ten years by the world's most noted architect. Spanning nearly seven decades of creative activity, this work stands as Wright's legacy to his age. *List Price $12.50.*
**Members' Price $9.50.**

**ARCHITECTURE AS SPACE.** By Bruno Zevi. *186 photographs, drawings and plans.* Bruno Zevi has been called "undeniably the most articulate and enthusiastic of the contemporary critics and chroniclers of architecture." *List Price $7.50.*
**Members' Price $5.50.**

**your choice of these great titles free.**

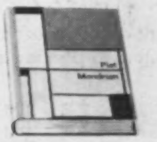
**BEN SHAHN, His Graphic Art.** By James Thrall Soby. *More than 100 reproductions, 8 pgs. in full-color, bibliography, 144 pages, 8½" x 11".* List Price $10.00. **Members' Price $7.50.**



**NATIVE GENIUS IN ANONYMOUS ARCHITECTURE.** By Sibyl Moholy-Nagy. *223 pgs., 105 photographs, 21 drawings.* List Price $7.50. **Members' Price $5.50.**

**PABLO PICASSO.** By Wilhelm Boeck and Jaime Sabartès. *524 pgs., 606 reproductions, 44 in color, 12" x 8½".* List Price $17.50. **Members' Price $13.50.**

**THE MOVIES.** By Richard Griffith and Arthur Mayer. *456 pages, over 1500 photographs, 9" x 12".* List Price $15.00. **Members' Price $11.50.**



**PIET MONDRIAN.** By Michel Seuphor. *444 pgs., 600 ills., 8½" x 12".* List Price $17.50. **Members' Price $13.50.**

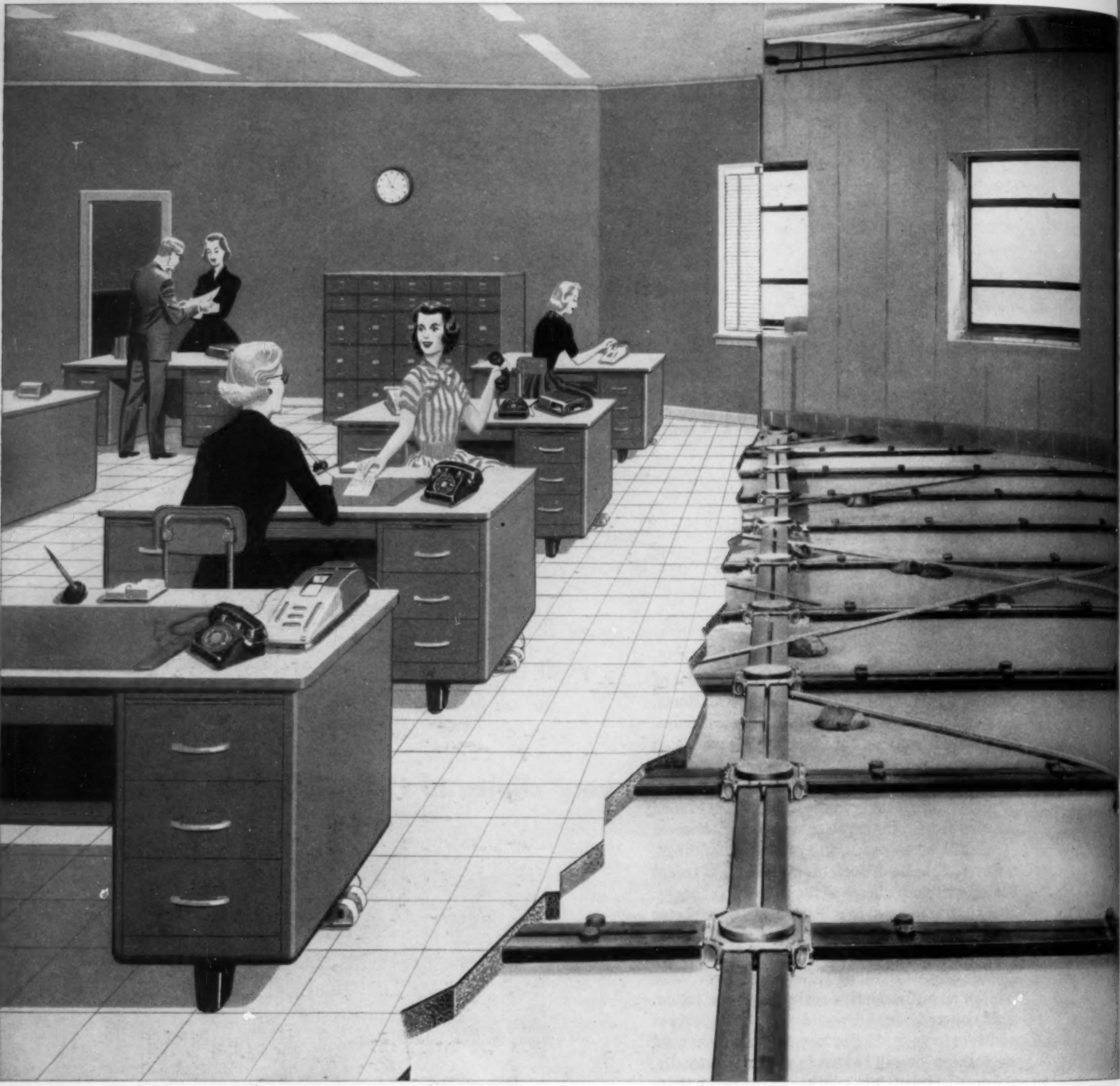
ARCHITECTURE OF TRUTH

**THE ARCHITECTURE OF TRUTH.** By François Cali. *104 full and double page photographs by Lucien Hervé.* List Price $15.00. **Members' Price $12.50.**

**THE SEVEN ARTS BOOK SOCIETY, INC., 215 4th Ave., N.Y. 3, N.Y.**

Please enroll me as a member. Send me the FREE GIFT and first selection (at the special membership price plus postage and handling) which I have indicated.
I am also to receive without charge the monthly bulletin, the **Seven Arts News**. I may choose either to receive, reject or substitute for each monthly selection by returning a conveniently provided form. I may select as few as 4 books out of the more than 100 titles offered during the course of a year. I may resign membership at any time after buying my fourth book.

FREE GIFT__________
FIRST SELECTION__________
Name__________
Street__________
City______ Zone____ State______
SA-AR-2



Quick and economical to install, Nepcoduct is manufactured as a single, double, or triple duct system to provide separate wiring facilities for light and power, inter-communication and telephone.

# Power-full floors can take any office layout

National Electric Nepcoduct Steel Underfloor Raceways provide full electrical distribution throughout the floor area.

Adaptable to any type of floor construction, Nepcoduct makes outlets available wherever they are needed for efficient office layout. This means electrical service changes can be made quickly and at low cost to the owner or tenant . . . without interrupting business routine.

When you build, specify NE Nepcoduct to be sure the building will never grow old electrically. Write for complete information today.

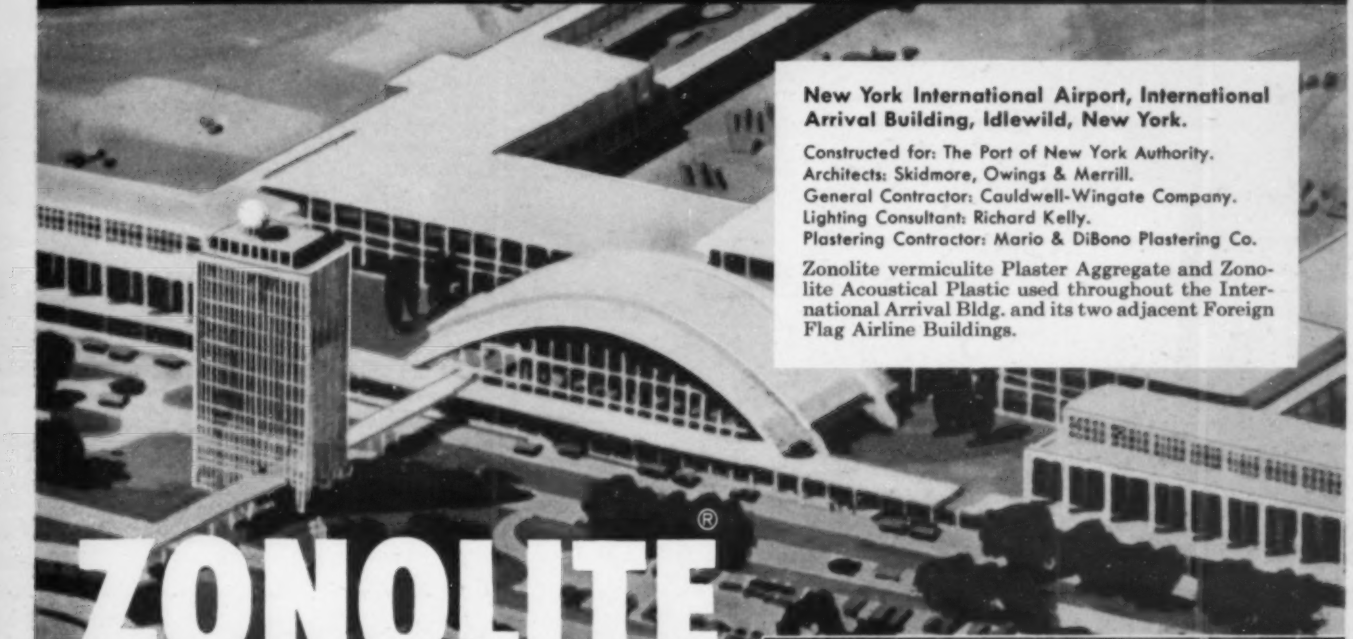
National Electric's new streamlined service fittings are specially designed for installation where modern desks and free standing equipment limit the heights of service fittings to less than 3 inches.

**National Electric Products**

PITTSBURGH, PA.

2 Plants • 11 Warehouses • 35 Sales Offices

# Where America Greets the World...



**New York International Airport, International Arrival Building, Idlewild, New York.**

Constructed for: The Port of New York Authority.
Architects: Skidmore, Owings & Merrill.
General Contractor: Cauldwell-Wingate Company.
Lighting Consultant: Richard Kelly.
Plastering Contractor: Mario & DiBono Plastering Co.

Zonolite vermiculite Plaster Aggregate and Zonolite Acoustical Plastic used throughout the International Arrival Bldg. and its two adjacent Foreign Flag Airline Buildings.

## Meets A Tough Design Problem

Look up into the dramatic parabola of the New York International Airport Arrival Building and you will see a vast and handsome expanse of ceiling composed of ½" Zonolite Acoustical Plastic on ⅝" Zonolite Plaster.

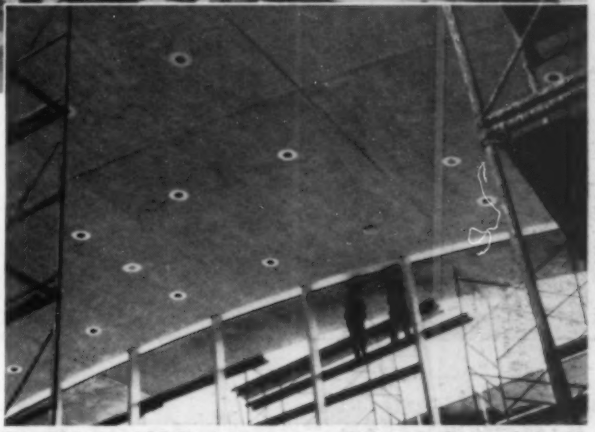
But back of this beauty is the story of a combination of plastering problems met and solved. These problems included acoustics...fire protection...the 3-inch expansion of this 204-ft. by 108-ft. arch...and securing the kind of light reflection which would help harmonize indoor artificial lighting with natural light coming in through the big glass front of the building.

Zonolite vermiculite Plaster Aggregate and Zonolite vermiculite Acoustical Plastic met fire safety and acoustical requirements. In addition, they contributed light reflection which was neither specular nor fuzzy. Expansion was handled by dimensionally stable Zonolite in 15- by 24-ft. panels with unobtrusive expansion beading between.

### Perfect for Modern Office Buildings, Schools and Hospitals

Modern design presents problems of light weight, firesafe construction, and Zonolite provides opportunity to make the most of modern design. Lightweight Zonolite vermiculite products take the "load" off buildings, save tons of dead weight...are unsurpassed for fireproofing...offer high insulation and acoustical values. Above all, they cut costs. While planning your next project why not mail the coupon for complete data on modern Zonolite for today's building needs?

***MAIL FOR COMPLETE DATA ON MODERN ZONOLITE*** ▶



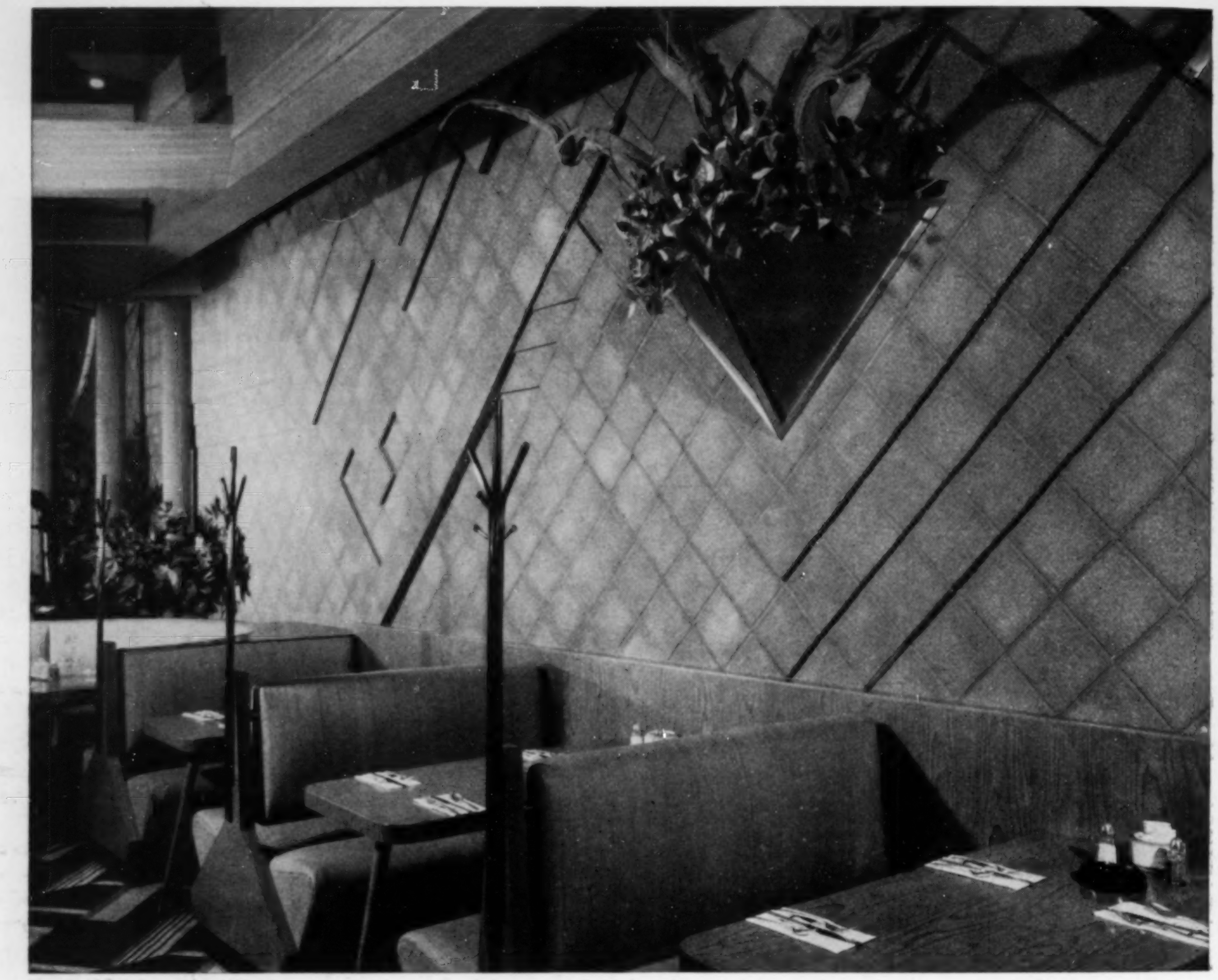
This 204- by 108-ft. clear span parabola was fireproofed with Zonolite vermiculite Plaster Aggregate and sound conditioned with Zonolite vermiculite Acoustical Plastic. Zonolite provided the desired light reflection and expansion was handled by dimensionally stable Zonolite in large areas with expansion bead between.

Applying fireproof Zonolite vermiculite plaster to columns.

**ZONOLITE COMPANY,** Dept. AF-28
**135 S. La Salle St., Chicago 3, Ill.**

Please send me your new booklet, PA-41.

*Name*____________________
*Firm*____________________
*Address*____________________
*City*__________ *Zone*____ *State*____



***A dramatic "change of pace".*** Waylite walls need never be monotonous or dull . . . there is always an architectural treatment or form that harmonizes with the function of the structure. In addition Waylite provides an insulative structural wall that needs no acoustical treatment—all at one low cost. The Waylite Company, 20 N. Wacker Drive, Chicago, Ill.; P. O. Box 30, Bethlehem, Pa.

WAYLITE
MASONRY UNITS

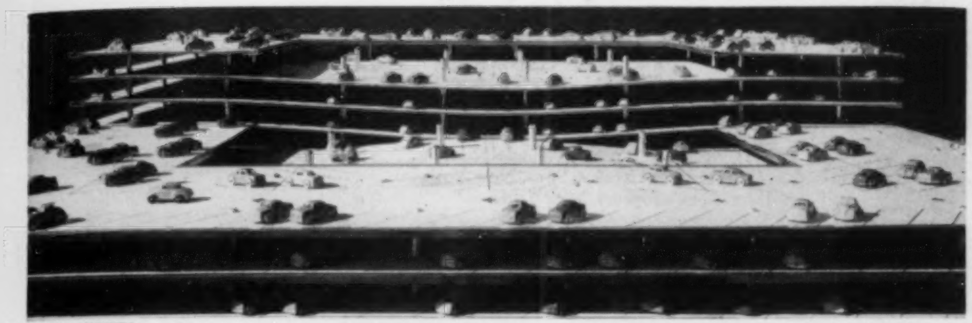
**HOW ACCOMPLISHED:**

Textured 8 x 8 x 8 inch Waylite Units stacked diagonally. Some units set in wall at different level for shadow effect.

**CREDITS:**

Pub Bar and Restaurant, Philadelphia. Architects: Armand Carroll and Wm. J. Stephenson. Mason contractors: Casper Bros.

## Brief accounts of noteworthy developments

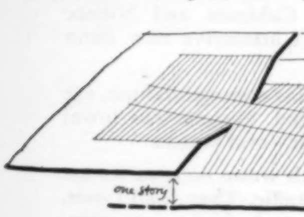


GORDON SOMMERS

### PARABOLIC GARAGE

The problem of building more efficient parking garages is crying for solution almost as desperately as the traffic problem from which it stems. One of the most recent and unusual proposals, not yet built, is shown in the cutaway model above. It differs from most multistory garages of recent design (FORUM, Feb. '53) in being without separate ramps or elevators. In place of ramps, its designer, E. M. Khoury, of Canoga Park Calif., has warped certain sections of each floor into a kind of hyperbolic paraboloid (curves formed by straight lines), so that each floor merges almost imperceptibly into the next and all levels are joined in an unbroken spiral from top to bottom.

The sketch shows how each level is shaped and how, by warping the floors, the levels are joined together. The peripheral areas of each floor are level, suggesting to Khoury that such a structure could be designed as an office building with a parking-garage core, using the curved areas for parking and all level areas at the periphery for office space. The design would allow 5 per cent more parked cars than a conventional ramp design of equal size.



Construction can be as straightforward as in a conventional design, Khoury says, because the warped parabolic areas can be designed as straight, sloping lines, rather than as curved surfaces, and the structure can have steel instead of reinforced concrete as its skeleton. Construction is made easy by the nature of the design: every point on the floor is the same height above the floor below.

---

Perhaps the ultimate in elevator garages is one that will be completed in 1959 on New York's West Side. The structure will be a conventional eight-story building; one attendant will be able to handle its 276 cars. A complex elevator-conveyer system moves each car vertically and horizontally to its assigned space. Speed-Park Inc., developer of the system, plans to build similar systems in other cities. Capacity can range from 60 to 2,000 cars. Otis Elevator Co. is associated in the project; it will manufacture, install, and maintain the equipment and controls.

### STABLE SOIL

The importance of chemistry in the building science is nowhere more apparent than in the new field of soil solidification. With some chemicals, it is possible to reduce the soil's water permeability, as American Cyanamid has demonstrated with acrylic resins (FORUM, June '57). With others, such as phosphoric acid, it may soon be possible to improve the load-bearing capacity of a broad spectrum of fine-grained clay soils, an advance which may result in significant timesavings in the preparation of building foundations.

At the Massachusetts Institute of Technology, where much of the soil research is being carried on, it is believed that phosphoric acid, with the addition of trace amounts of organic materials, shows considerable promise as an economically realistic soil solidifier. In a recent series of tests, MIT scientists have examined five soils of widely differing composition, mixing each with water and with small amounts of phosphoric acid. Each of the soils solidified, the coarser-grained soils showing the highest strength, the finer-grained soils requiring larger amounts of acid to gain stability.

Ultimately, if MIT's research effort meets its objective, the acid stabilizers will be so effective and economical that it will be unnecessary to remove the existing soil from a foundation site.

### SMOG AND THE AUTO

In the city's battle against the enveloping smog, it is more evident with each advance that the most affluent source is automobile exhaust. But to isolate the source and to control it are distinctly different problems, as recent developments indicate, with the problem of control being by far the more difficult:

▸ General Motors' engineers have developed a "maximum performance carburetor" that eliminates 90 per cent of the smog-producing nitrogen oxides in automobile exhausts. But, says GM, the device would cost each motorist about $70 a year, because it reduces gasoline mileage by about 26 per cent. Still less encouraging, the carburetor increases the exhaust's carbon monoxide output.

▸ At the Atlantic Research Corp., in Alexandria Va., physical chemists are searching for the ideal conditions under which a mixture of exhaust fumes can be made to burn. Once this is discovered, the chemists will set out to learn why certain conditions are more satisfactory for exhaust-fume burning than others. Research sponsors at Los Angeles' Air Pollution Foundation hope the findings will encourage the auto industry to produce a control device, based on the data of Atlantic Research.

▸ At the Armour Research Foundation, scientists are on quite a different tack. By coating the engine's piston heads with a spray-on ceramic, which acts as a catalyst, carbon monoxide output can be reduced 10 to 24 per cent during acceleration and deceleration; exhaust output of unburned hydrocarbons can be decreased by as much as 50 per cent. However, the tests to date have been made with only unleaded gasolines, and it is likely to be some time before the scientists can be certain that the technique will have a significant effect in reducing the smog-producing elements in exhausts. END

# NIBROC® CABINETS and TOWELS

## Save Floor Space, Improve Washroom Appearance in New Philadelphia Office Building

PENN CENTER BUILDING, Philadelphia, Pa.
*Architects:* Emery Roth & Sons, New York
*Builder:* Uris Brothers, New York

In keeping with a desire to provide tenants with the finest washroom facilities available, Nibroc Recessed Cabinets and Nibroc Towels have been installed in Philadelphia's attractive new Penn Center Building.

**Nibroc, America's first wet strength towels** for commercial use, are super-absorbent, strong, sanitary, soft textured. Because *one* towel dries both hands, they speed washroom traffic—end waste.

**The new, improved recessed dispensers** with waste receptacles are highly popular for washrooms with heavy traffic. They load faster, hold more towels, and are beautifully constructed of 22-gauge stainless steel. For staggered installation, dispenser and waste receptacle are obtainable separately. Wall cabinets available in white enamel, chromium plate or stainless steel.

**For complete satisfaction,** choose Nibroc Towels and Cabinets. Look under "Paper Towels" in your classified directory for name of nearest distributor, or write Dept. UN-2, at our Boston office.

**See Sweets Catalog** for full details about Nibroc Cabinets—wall, floor model and recessed.

BROWN COMPANY
150 Causeway Street, Boston 14, Mass.
*Mills:* Berlin & Gorham, New Hampshire

**bright future**

Buildings constructed and decorated with Stainless Steel are cleaner, more attractive places to work and live. When you're planning a building . . . design it, improve it and protect it with McLOUTH STAINLESS STEEL.

**specify**

**McLOUTH STAINLESS STEEL**

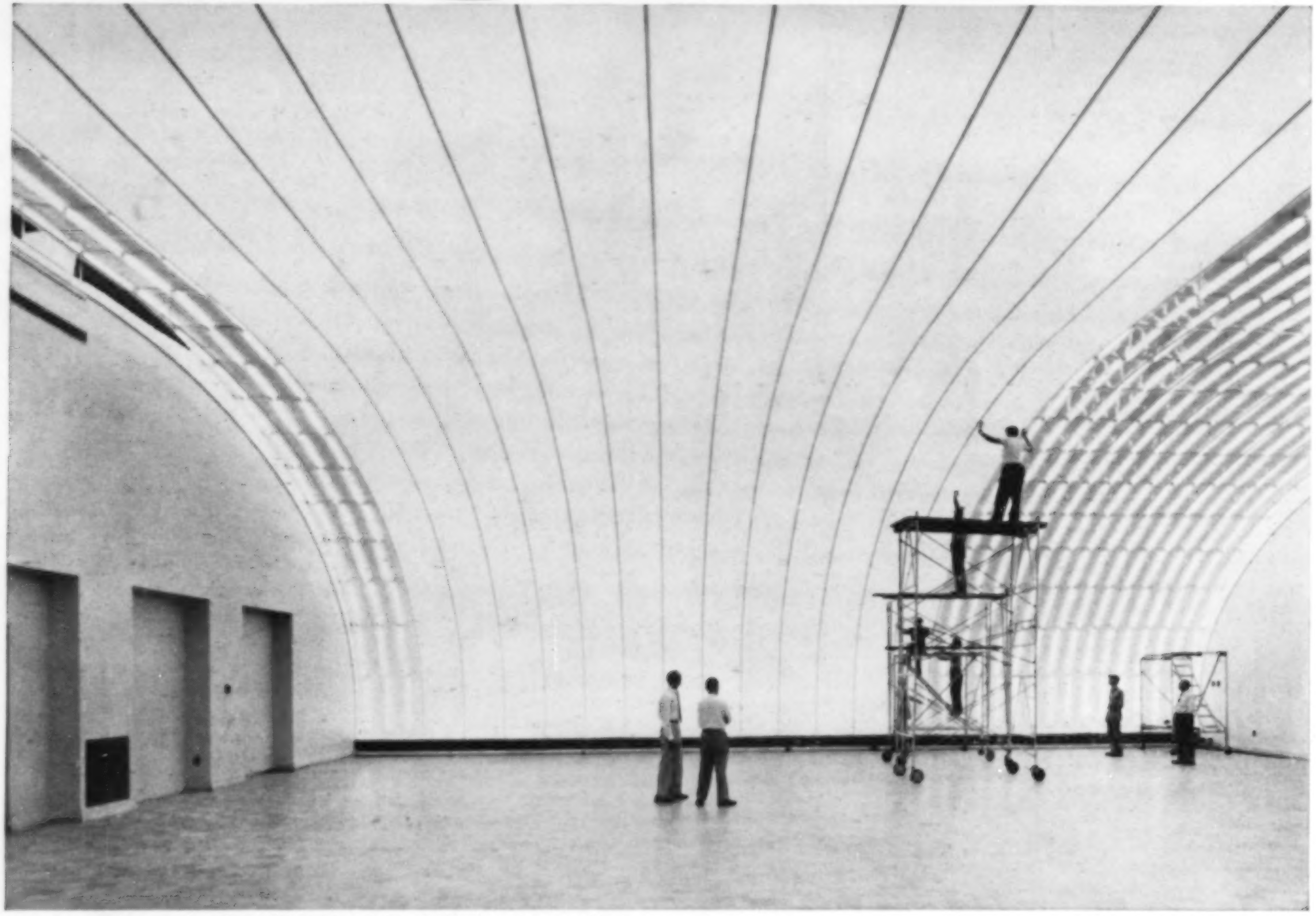
HIGH QUALITY SHEET AND STRIP

**for architecture**

McLOUTH STEEL CORPORATION DETROIT, MICHIGAN

*MANUFACTURERS OF STAINLESS AND CARBON STEELS*

LIGHT...



**Light weight of BAKELITE Rigid Vinyl Sheet** makes installation in this 21-foot high ceiling easy. Lamps are spaced 18-inches, and are alternately controlled to give 110 to 240 foot-candles at the working level 30 inches from the floor. Total lighting installation in this 110 x 75-foot room is 48 kw.

LIGHT. . . from the floor up

Chrysler Corporation built this styling room to give its designers the proper background for their new designs. To get the effect of an indoor sky, they used a luminous ceiling built from the floor up.

. . . and when The Wakefield Company picked the material to fit the job, they chose BAKELITE Rigid Vinyl Sheet. It's tough yet light in weight . . . easy to handle, easy to install.

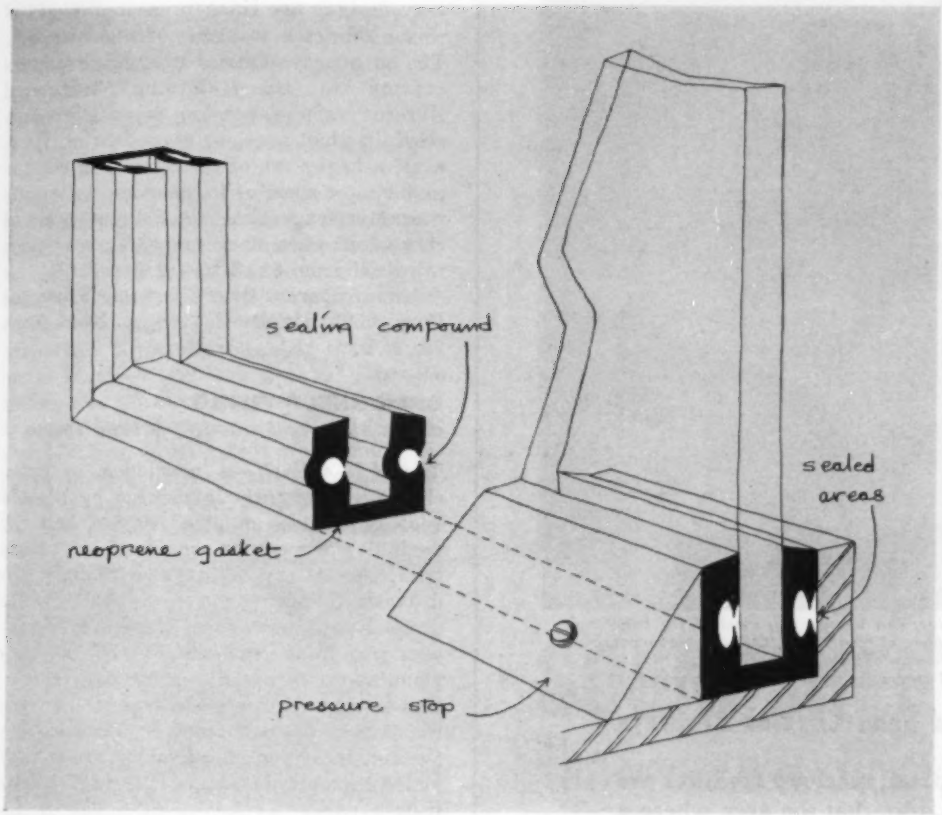
Hard jobs, or easy ones, look better, work better when you have the facts on hand. Write Dept. BM-2 today for luminous ceiling data. BAKELITE COMPANY, Division of Union Carbide Corporation, 30 East 42nd Street, New York 17, N. Y.

It pays to design with BAKELITE BRAND PLASTICS

UNION CARBIDE

The terms BAKELITE and UNION CARBIDE are registered trade-marks of UCC.

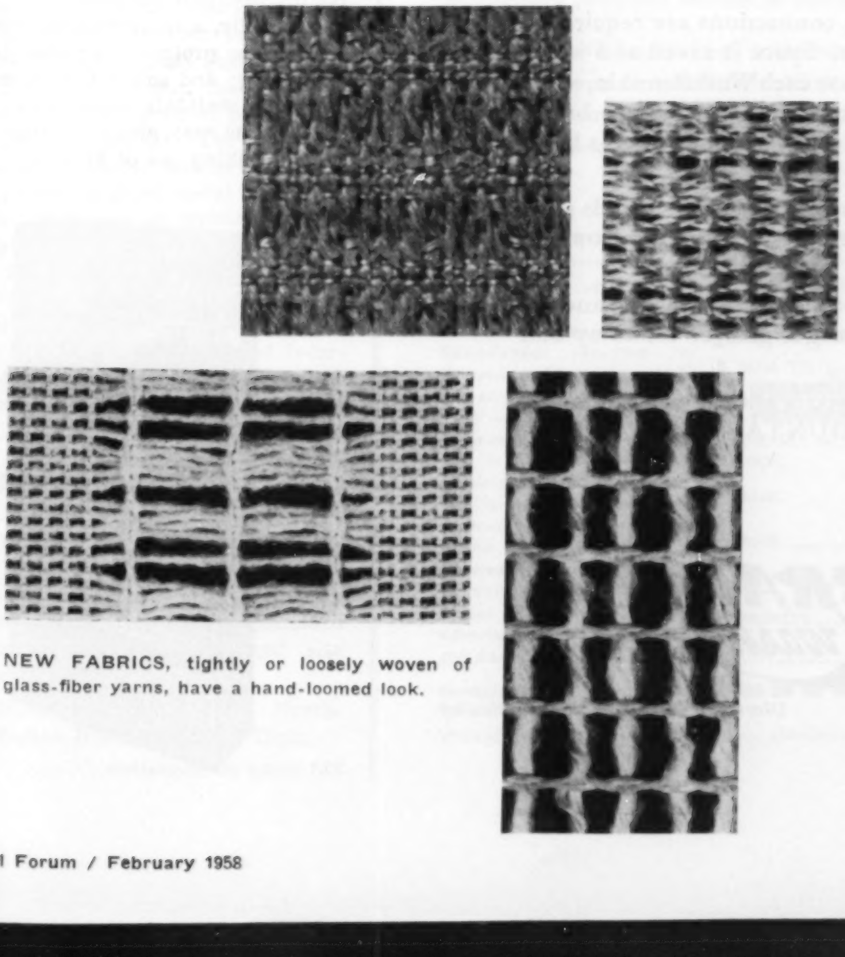
# Sealer-loaded gasket . . . soft glass yarn . . . modular filing . . . "cold" metal joining



## CURTAIN WALL GASKET has built-in sealer reservoirs

A new labor-saving technique for sealing curtain wall joints has been developed by the Pawling Rubber Co. Designed to speed up and simplify on-the-job weather stripping, the method employs a U-shaped, rubber (neoprene) extrusion or channel that is mitered and vulcanized to form a weather-tight gasket. The key feature of the unit, however, is a unique system of reservoirs built into the inner and/or outer surfaces of each channel (wherever a bond is required). These reservoirs are filled, at the factory, with a special Pawling-formulated sealing compound. At the erection site, the gaskets are snapped (like rubber bands) over panels or glass; this assembly is then positioned in the frame and drawn up tight with pressure stops. When pressure is applied on the gasket, the mastic compound squeezes out of the reservoirs to form a permanently wet, but firm, seal between mating surfaces. Besides offering notable time and labor savings, the technique has the added advantage of calking both sides of the panel simultaneously. Since panel sizes in curtain wall construction vary widely, the extrusions are custom-designed to fit each specific application. Cost per linear foot: 15 to 20 cents. Estimated installation cost: 60 cents a linear foot.

*Manufacturer:* Pawling Rubber Corp., Pawling, N.Y.



NEW FABRICS, tightly or loosely woven of glass-fiber yarns, have a hand-loomed look.

## AIR-BLOWN GLASS YARN imparts a soft look to drapes

Despite their many practical advantages, decorative fabrics woven from glass fibers have long suffered from a rather hard, glossy look and feel. But Owens-Corning has just introduced a new glass-fiber yarn for drapes and curtains that could jump Fiberglas fabrics to the head of the decorative-materials class; for cloth manufactured from this yarn has a texture that looks and feels like wool or mohair —and in some instances, linen. Trademarked *Fiberglas Aerocor,* the new yarn is produced by a DuPont process known as "Taslan"—a method whereby a strand, or group of strands, can be bulked up or blown up under concentrated air pressure, thus decreasing the density and increasing the diameter of each strand 30 to 40 per cent. When the process is applied to standard (continuous) Fiberglas filaments, it produces a fluffed-out glass yarn that is more opaque, far less synthetic looking, and much softer—while continuing to offer all the unique properties of the original

*continued on page 130*

SEMI-CIRCULAR WASHFOUNTAINS SOLVE A COLUMN AREA PROBLEM

At top of page, new bearing ring plant of The Fafnir Bearing Company of New Britain, Conn., at Newington, Conn. Below is view of locker and washroom. Design and construction by The Austin Company.

**Note Use of Both Circular and Semi-Circular Bradleys**

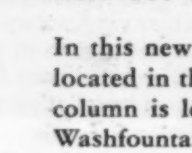
In this new Fafnir bearing ring plant, wash-up facilities are located in the locker-room. Note, too, that the area where a column is located is not wasted. Two Bradley *semi-circular* Washfountains, back to back, solved the problem. Ordinarily the semi-circular fixtures are used in narrower rooms and are installed at wall.

With all Bradleys, fewer piping connections are required—just three to serve 8 to 10 persons. Space is saved and water consumption greatly reduced because each Washfountain, while serving groups, uses no more than an individual wash basin. And with foot-control, *water is cut off immediately* foot is lifted from the control ring at base.

There are no faucets to manipulate or maintain. Hands need touch nothing but the clean tempered water coming from the central sprayhead.

For new buildings—for extensions to present plants, and for modernizing old washrooms—you get greater economy and user satisfaction with Bradleys.

For dimensions and complete specifications, write for Catalog 5601. BRADLEY WASHFOUNTAIN CO., 2235 W. Michigan St., Milwaukee 1, Wis.



Write for Catalog 5601

BRADLEY washfountains

*Distributed Through Plumbing Wholesalers*

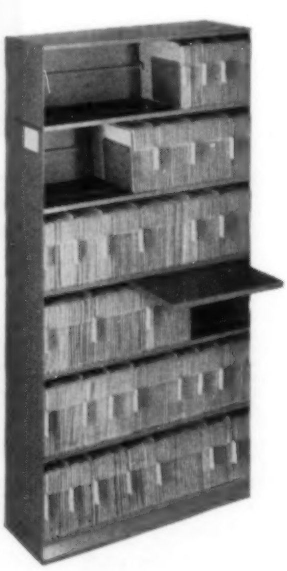
filament: the woven cloth is fire-resistant and mothproof; it will not stretch or shrink, mildew or sun rot; it is translucent, yet provides insulation. Though the new open-weave materials (pictured on page 129) seem to be the most popular innovation in the new Fiberglas line, a host of provincial, traditional, and contemporary designs are being presented on close-weave fabrics in a variety of vibrant colors. The open-weave fabrics are white; but, according to Owens-Corning, texturized *Aerocor* yarn also takes color more successfully than previous glass fabrics. However, a heavy use of color tends to rob the material of some of its characteristic softness. More expensive than fabrics woven of continuous glass-fiber yarns, *Aerocor* cloth is priced from $1.98 to $12 per yard.

*Manufacturer:* Owens-Corning Fiberglas Corp., 598 Madison Avenue, New York 22, N.Y.

### OPEN-SHELF FILING costs less and occupies less space

The *Add-A-Shelf*—a new idea in open-shelf filing recently introduced by Diebold Inc.—capitalizes on good design and the flexibility of modular construction: it looks trim, speeds up filing and finding (no drawers to open or close), and provides decided cost and space savings over conventional filing cabinets. Furthermore, its modular structure allows for easy expansion as a company's records grow. Through a simple, no-tools-required, interlocking system, individual filing units are merely added (top-to-bottom, side-by-side, or back-to-back) as increased space is required. Priced at $8.30 each, three of these units afford a filing capacity equal to that of the average four-drawer cabinet—but cost roughly 25 per cent less and occupy just half the space.

Naturally, any open-shelf system offers little or no protection against dust or untidy filing; and soiled folders must be replaced to maintain appearance. However, this system may also encourage more frequent cleaning out of files.

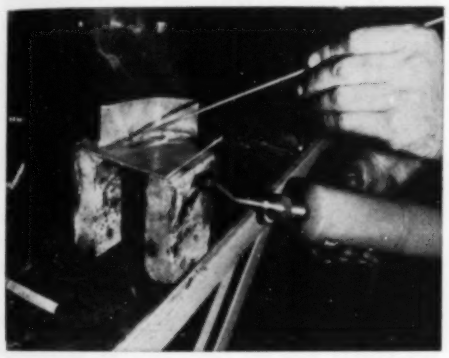


Marketed in two sizes to accommodate both letter and legal-size folders, *Add-A-Shelf* units are equipped with movable folder supports and filing guides. A removable posting shelf that locks into place where it is needed (see photo) and a special base section are also available. All units come in standard gray, but other colors may be ordered at a slight additional cost.

*Manufacturer:* Diebold Inc., 818 Mulberry Rd., Canton 2, Ohio.

### NEW JOINING MATERIAL chemically weds nonferrous metals

Under the influence of heat, *InterAct*, a new wire-sheathed joining material, causes similar and dissimilar nonferrous metals to flow together at temperatures lower than the melting point of either metal. The resulting joint, according to the manufacturer, is usually stronger than either metal involved and has greater corrosion resistance. Chemically speaking, *InterAct* is a reaction eutectic: a material which, at about 725 to 810 degrees Fahrenheit, reduces surface oxide through reaction and forms a union between metals by creating an intersurface eutectic (fusible) solution.



The basic product is composed of chlorides of zinc, lithium, potassium, and sodium encased in a ⅛-inch-diameter tubing (an alloy of zinc and aluminum) that is wound in coils. Both the internal material and its sheathing play an integral part in the chemical joining process. The *InterAct* technique—which should not be likened to soldering (where a third metal grips two other metals to itself) or welding (where two similar metals are bonded at temperatures far above the melting point of either)—now makes chemical joining on the job commercially feasible at a cost of about 11½ cents a foot. The shelf life of *InterAct* is said to be indefinite. But when the material is not in use, the coil tip must be capped with an epoxy resin, as *InterAct* is an intensely hygroscopic material (on contact with air it quickly absorbs and retains moisture, thereby destroying itself and the zinc container). For heavy industrial use, *InterAct* is also available in powder and granular forms, packaged in polyethylene bags. Price for the standard ⅛-inch wire (which fits standard size welding guns) is $6 a pound.

*Manufacturer:* Interectics Inc., Northfield and Forbes Roads, Bedford, Ohio.

*continued on page 132*

WORTH WAITING FOR*

SOUNDSHEET

the new sensation in sound and sight

Soundsheet Translucent Acoustical Element for Over-all Lighting Systems successfully combines acoustical and light diffusing properties for the first time!

In working with Soundsheet, architects, engineers and contractors are enjoying new layout and installation freedom. Soundsheet not only supplements other acoustical treatments, but also can be effectively used with most wall-to-wall or area lighting systems now in existence or in the planning stage.

Combines acoustical and lighting properties successfully for the first time • Easy to install • Balanced sound absorption • Washable • Harmonized perfectly with any of today's architectural interior concepts • Quality illumination • Softly diffused lighting free of shadows and reflections at high efficiency • Available in flat or corrugated sheets • U.L. listed.

**The tremendous interest in Soundsheet resulted in thousands of inquiries which far surpassed our expectations — and caused a delay in answering many requests and in filling orders. With administrative and production facilities now expanded to handle the continued demand for Soundsheet, Contrex Company invites you to write for information about Soundsheet's many advantages and how they can benefit you.*

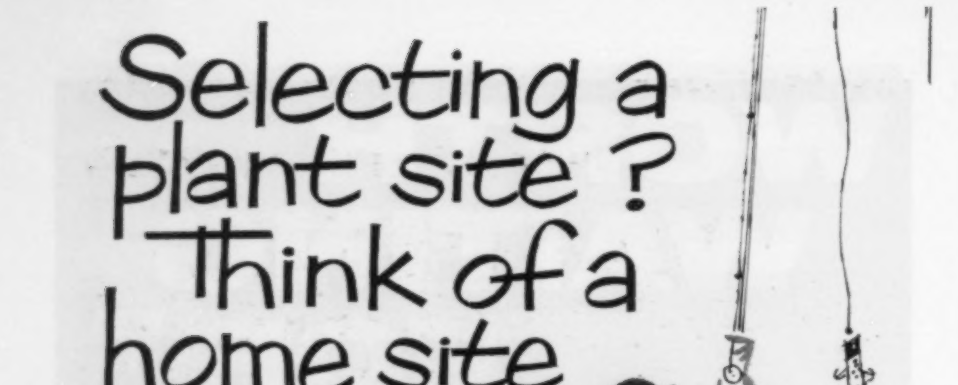
MAIL TO:
CONTREX
CHELSEA 50,
MASS.
AF-2

☐ Please send me literature and a sample of Soundsheet.
☐ Please have your representative call.
☐ Please send me a list of licensed manufacturers who include Soundsheet in their lighting equipment.

NAME __________
COMPANY __________
ADDRESS __________
CITY __________ STATE __________

Developed for Contrex by
Bolt Beranek and Newman Inc.

AVAILABLE FROM COAST TO COAST THROUGH AUTHORIZED MANUFACTURERS OF LIGHTING AND ACOUSTICAL PRODUCTS

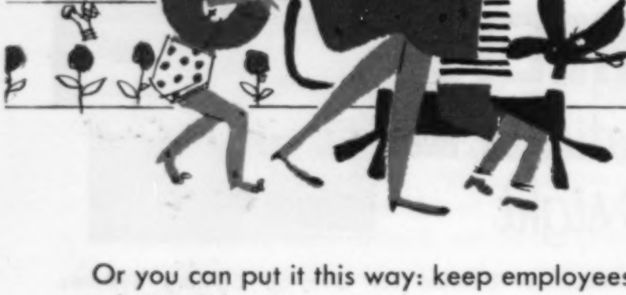

Selecting a plant site? Think of a home site too!

Or you can put it this way: keep employees happy and they'll do a better job.

That's one thing about our West. It's a wonderful place in which to enjoy life. There's plenty of space to give one a sense of freedom, and there are varied recreational opportunities. People are friendly. They make you feel at home.

In the western states served by our railroad, you're quite certain to find a plant site that meets your requirements from an industrial or commercial viewpoint. That includes, naturally, the modern, efficient freight and passenger service provided by Union Pacific.

For information about available sites, see your nearest "U.P." representative or get in touch with us direct.

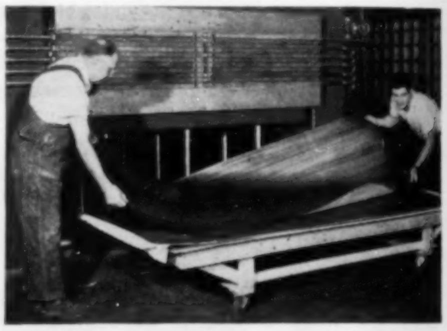


*Map shows the vast western area served by Union Pacific*

INDUSTRIAL DEVELOPMENT DEPARTMENT
**UNION PACIFIC RAILROAD**
OMAHA 2, NEBRASKA

### VINYL-FACED WOOD VENEER will not crack or cloud with age

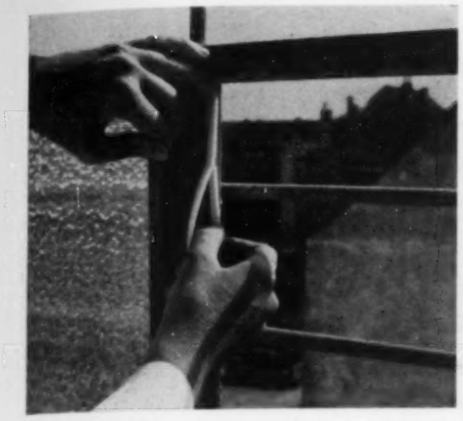
As a wall-covering material that simulates wood paneling, real-wood veneers are not new. Several (some with a vinyl facing, others without) have been on the market for quite a few years. But *Furnaflex*, a handsome real-wood veneer produced by an exclusive German process, *is* new and different. Basically a wood laminate (wallpaper-thin wood veneer is sandwiched between cotton cloth and a vinyl film), *Furnaflux* is said to be permanently flexible—that is, it will never crack with age, either on the wall or in storage; it will not cloud or turn chalky white; and because of its protective vinyl surface, it needs no periodical waxing or refinishing. In addition, *Furnaflex* costs about 25 per cent less than other veneer-type materials: standard 4-by-8-foot sheets sell for 58 to 62 cents a square foot. Available in dull, satin, or glossy veneers of oak, birch, walnut, mahogany, and cherry, the material is 25-thousandths of an inch thick; it can be cut with a knife or heavy scissors and rolled for shipping or to ease application. However, folding to 90 degrees will split the veneer and its vinyl facing. A recommended mastic adhesive ($4 a gallon) is also marketed by the manufacturer. Installation cost: 25 cents a square foot.



*Manufacturer:* Wilcox-Woolford Corp., Pikeland Ave., Spring City, Pa.

### URETHAN FOAM TAPE marketed as weather stripping

For many door or window weather-stripping operations, such old stand-bys as felt, rubber, and putty may soon be replaced by a versatile plastic tape called *Tesamoll.* A polyurethane foam chemically cemented to an adhesive carrier, the product (a German one) is new to this country, but boasts an impressive array of desirable and practical characteristics. It is light in weight (about one-third as heavy as rubber); under slight pressure the tape's adhesive undercoating adheres to almost any clean, dry surface and is said to bond more firmly with time; it is rotproof, fungis-proof, and fireproof; it insulates against temperature extremes, noise, and dust: it is water-repellent; it can be painted; and, being a spongy plastic mass, it acts (unlike putty) as a damping cushion against vibration, chatter, and shock. However, speed of application seems

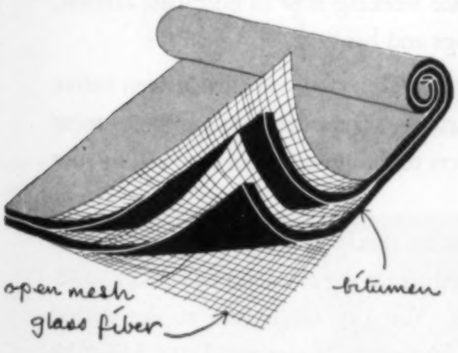


to be *Tesamoll's* greatest virtue. No nails are required—no gluing, moistening, or preheating is necessary. After removal of the protective foil backing, *Tesamoll* tape is simply pressed into place, thereby offering a considerable saving in time and labor. Marketed in roll form, *Tesamoll* is available in a variety of widths, thicknesses, and colors. The list price for the standard ½-inch wide, ¼-inch thick, 4¼-yard roll is 59 cents. But prices for all roll sizes are subject to quantity discounts.

*Manufacturer:* P. Beiersdrof, Hamburg, West Germany. Marketed in the U.S. by United Mineral & Chemical Corp., 16 Hudson St., New York 13, N.Y.

### WATERTIGHT ROOFING MEMBRANE sandwiches bitumen and glass cloth

By laminating plies of open-mesh glass-fiber cloth with coal-tar pitch or asphalt, the manufacturer of *Glasell Flexroll* has produced a new waterproofing material with obvious advantages: since the material is merely applied to roof surfaces with adhesive or mopped on with hot bitumen, no slow build-up of tar layers and reinforcement plies is necessary and labor costs are cut substantially. At the same time, a uniform waterproofing thickness is achieved at all points. Priced at 12 cents a square foot in pitch and 9 cents in asphalt, *Glasell Flexroll* comes in 44-inch-wide rolls that weigh 50 pounds and cover one square (100 square feet) of roof. A 22-inch-wide roll that weighs and covers just half as much is also available. When the material is applied cold, a special *Glasell* adhesive is recommended (cost of adhesive: 70 cents a gallon for the asphalt membrane, 85 cents for the pitch).



*Manufacturer:* Twinsburg-Miller Corp., Route 91, Twinsburgh, Ohio. END

DESIGNED TO WELCOME
BUILT TO WORK

DOR-O-MATIC® CONCEALED IN FLOOR
MANUAL DOOR CONTROLS

Adaptable to all types of construction—from monumental buildings to small retail stores—DOR-O-MATIC door controls are completely concealed in the floor. This allows architects complete design freedom. These controls are built from top-quality materials . . . processed and assembled by specialized technicians . . . tested under the most rigid standards. Give years longer, trouble-free operation . . . assure the most positive door control available anywhere. Installation is simple and easy. Write for detailed information.

DOR-O-MATIC INVISIBLE DOR-MAN for completely automatic door controls in carpet or handle actuated models. Monogrammed carpets in decorator colors.

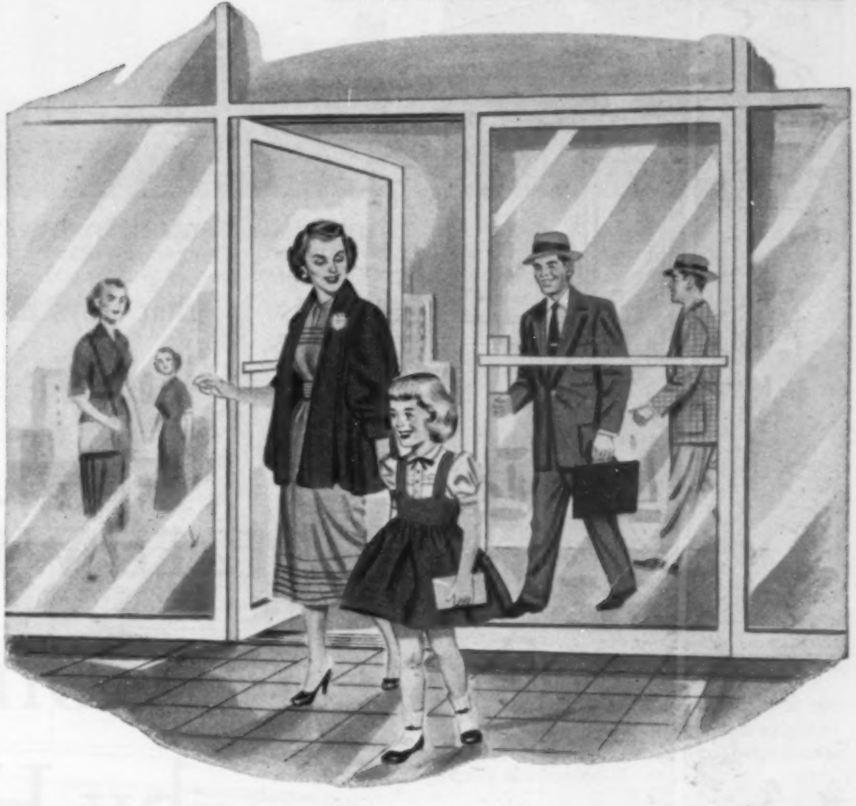
SEE OUR CATALOGS IN SWEET'S

Sales and Service in principal cities—see Yellow Pages of your phone book

6977

DOR-O-MATIC division of REPUBLIC INDUSTRIES, INC.
7356 West Wilson Avenue
Chicago 31, Illinois

CANADA: Dor-O-Matic of Canada, 550 Hopewell Avenue, Toronto 10, Ontario
EXPORT: Consultants International, 69-77 Bedford Street, Stamford, Connecticut



Give your clients a
modern building
that stays modern, returns
more on its investment.

# Start with a Systems Control Center by Honeywell

**For hotels, motels, or any building's entire operational equipment—Temperature · Air Handling · Detection, Signalling and Command.**

Through years of working with leading architects and consulting engineers, Honeywell has developed a new concept for commercial buildings—systems control centers. It helps you design buildings that:

*Reduce client's operating costs* because of the increased efficiency and economy of centralized controls for your automatic equipment;

*Lengthen the building's life* because this completely flexible system provides for future needs and Honeywell experience can help you predict them;

*Increase the building's utility* because systems control centers allow you to be more creative in designing for the particular needs of each client.

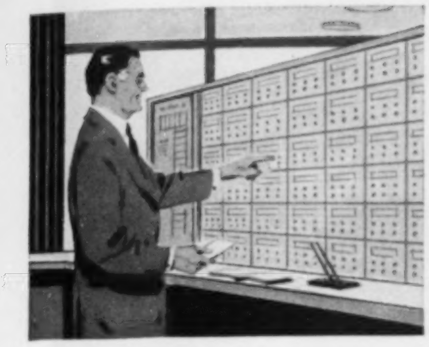
Honeywell is the only company which has designed systems control centers for commercial buildings. And such Honeywell systems are working now in hospitals, schools, hotels, office buildings and banks.

You can draw on this Honeywell experience even before the blueprints are started—can choose from the great variety of Honeywell products to design a system that will fit your plans best.

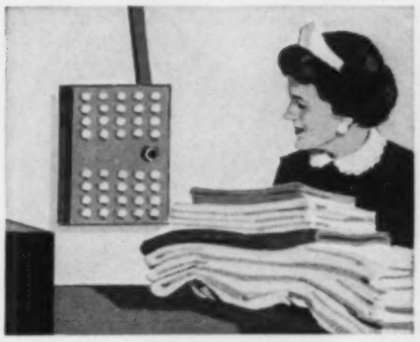
A Honeywell systems specialist will be glad to submit proposals for your evaluation at no obligation for any building you're planning. You can reach him at the nearest Honeywell office or by writing Honeywell, Dept. MB-2-30, Minneapolis 8, Minnesota.

**Honeywell**

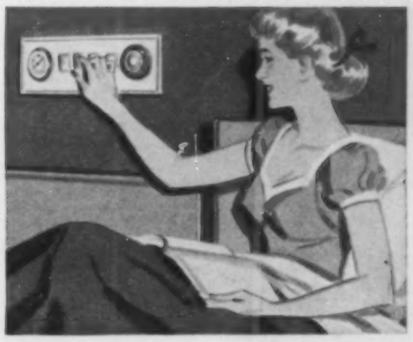
H HONEYWELL First in Controls



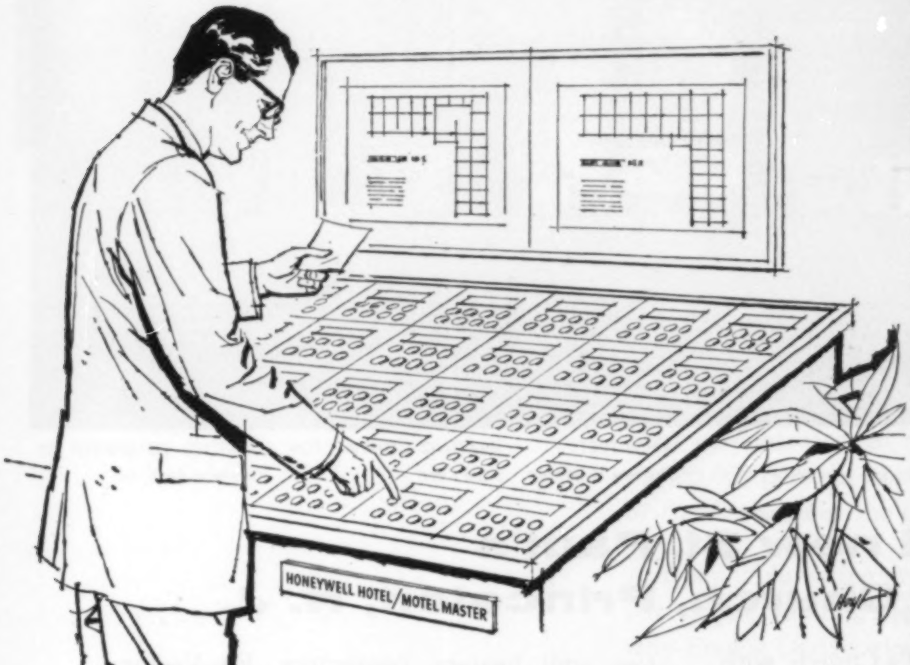
*The status* of each room; occupied, reserved or vacant is indicated on the front desk console. It can be read at a glance by the desk clerk.



*Maid signal* notifies clerk and housekeeper where maids are working and when rooms are made up. Enables clerk to signal what rooms are to be done.



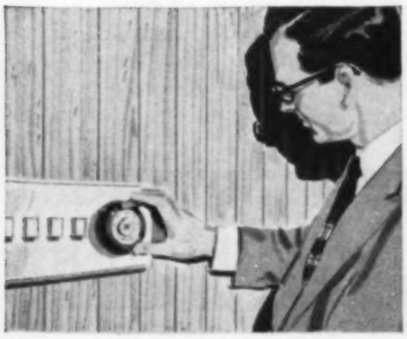
*Morning call*—"message for you" signal frees busy switchboard, wakes guest with buzzer, bell or chimes. "Message for you" light stays on until acknowledged.



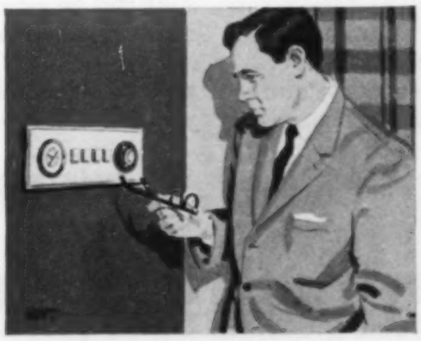
*Honeywell designed* Systems Control Center for hotels, called the Hotel-Motel Master*, puts up to 24 separate functions under the control of one man at a hotel's front desk.

*Fire detection signal* rings buzzer at the front desk. Flashing light indicates origin of the fire, enables clerk to send help immediately to the area.

*Centralized controls* for air conditioning, heating, lights, TV allow clerk to shut off equipment when guests leave, turn it on just before room is occupied.



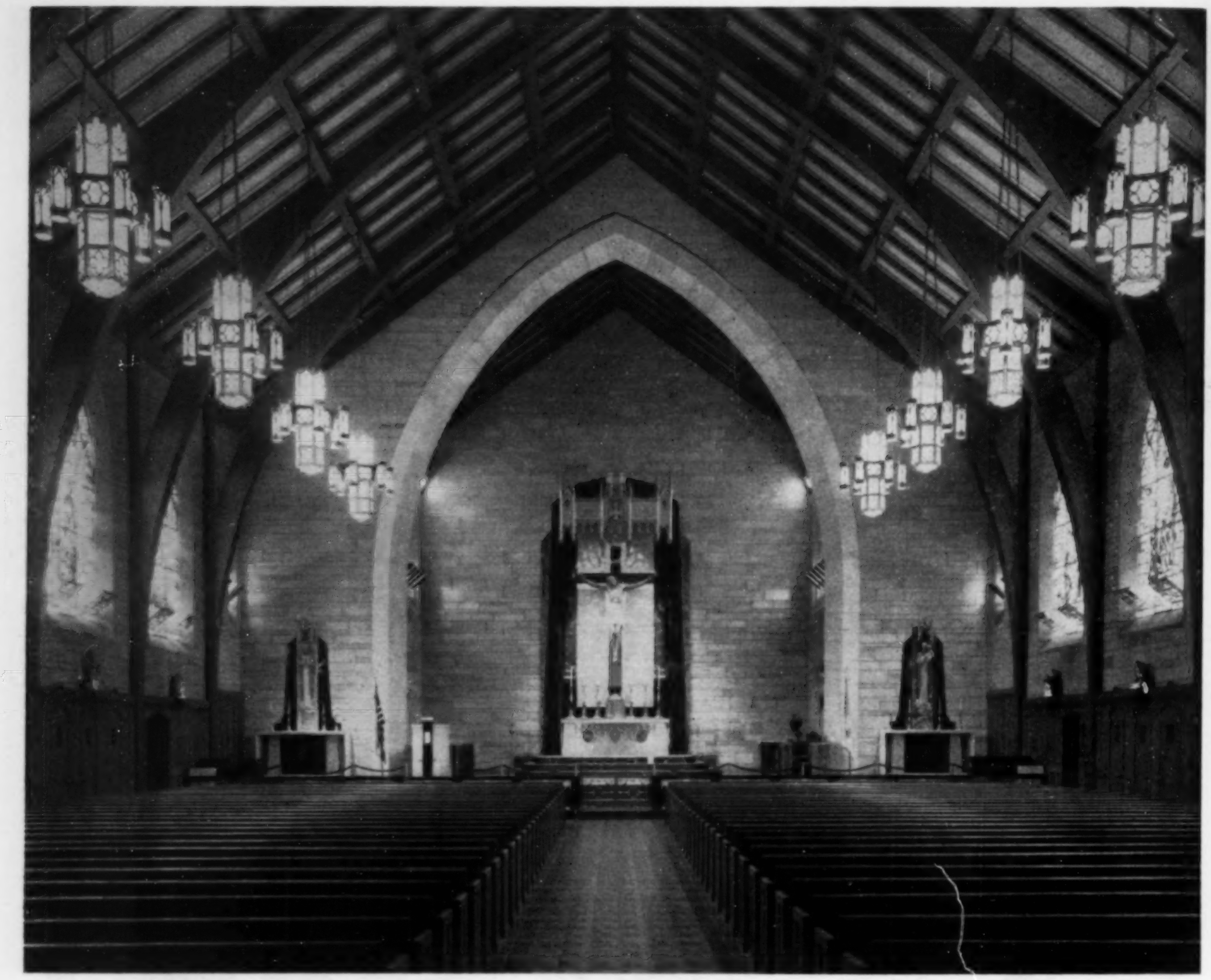
*Guestroom* temperature control (Honeywell Wall Mounted Thermostat) allows each guest to select the temperature at which he feels most comfortable.



*Weatherscope** automatically signals an up-to-date weather forecast to each guest, enabling them to dress according to the weather. Clerk operates master signal only.

*Hold-up alarm* operated by foot notifies house detective and others of trouble at the front desk, brings help quickly in case of emergency.

*T. M. Reg.



**ARCHITECT**
Thomas H. Moran

**HEATING CONTRACTOR**
John Carr

**HEATING EQUIPMENT BY**
Dunham-Bush, Inc.

## Beautiful new St. Paul's Catholic Church, Princeton, N. J.

Recently completed St. Paul's Church, with a seating capacity of 650, is of modern American-Gothic architecture. Exterior is hand cut granite with limestone trim, designed to blend with general surroundings in Princeton.

All heating products were supplied by Dunham-Bush, not only for the church but also for adjacent new rectory and convent. Dunham-Bush hot water specialties, unit heaters, convectors, Fin-Vector and baseboard were used in the modern heating system. Reason for one supplier? Dependable products . . . "one source—one responsibility" supplier!

*It will be advantageous for you to investigate Dunham-Bush heating and air conditioning products for your next job. May we send the nearby Dunham-Bush sales engineer your way? Write for his name.*

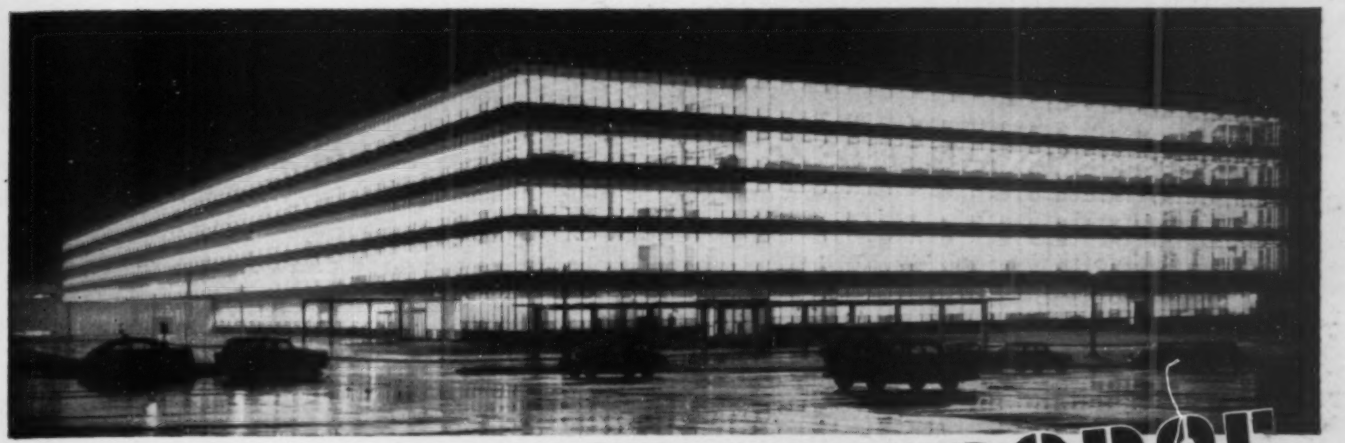
**Dunham-Bush, Inc.**

WEST HARTFORD 10 • CONNECTICUT • U. S. A

DUNHAM-BUSH

AIR CONDITIONING • REFRIGERATION • HEATING • HEAT TRANSFER
WEST HARTFORD, CONNECTICUT • MICHIGAN CITY, INDIANA • MARSHALLTOWN, IOWA
RIVERSIDE, CALIFORNIA • UTICA, NEW YORK
SUBSIDIARIES
heat-x HEAT-X, INC. BREWSTER, N.Y.
BRUNNER THE BRUNNER CO. GAINESVILLE, GA.
DUNHAM-BUSH DUNHAM-BUSH (CANADA), LTD. TORONTO, CANADA
DUNHAM-BUSH DUNHAM-BUSH, LTD. LONDON, ENGLAND
BRUNNER BRUNNER CORPORATION (CANADA) LTD. PORT HOPE, ONTARIO

New Home
for Army
Service Records



WIRE BY PHELPS DODGE

This modern AG Record Center building* in St. Louis, Mo., is virtually an oversized glass filing cabinet. Housed here are service records of 20,000,000 persons who have served in the Army or Air Force since the Civil War.

A dependable wiring system was an important part of the building's specifications. That's why Phelps Dodge wire and cable was installed.

On every wiring job, where top-quality materials, expert workmanship and experienced "know-how" are called for, *it pays to rely on Phelps Dodge and your Phelps Dodge distributor!*

*Joint General Contractors: Fruin-Colnon Contracting Co., St. Louis, Mo., and Peter Kiewit Sons' Co., Omaha, Neb., Electrical Contractor: Mack Electric Co., St. Louis, Mo.

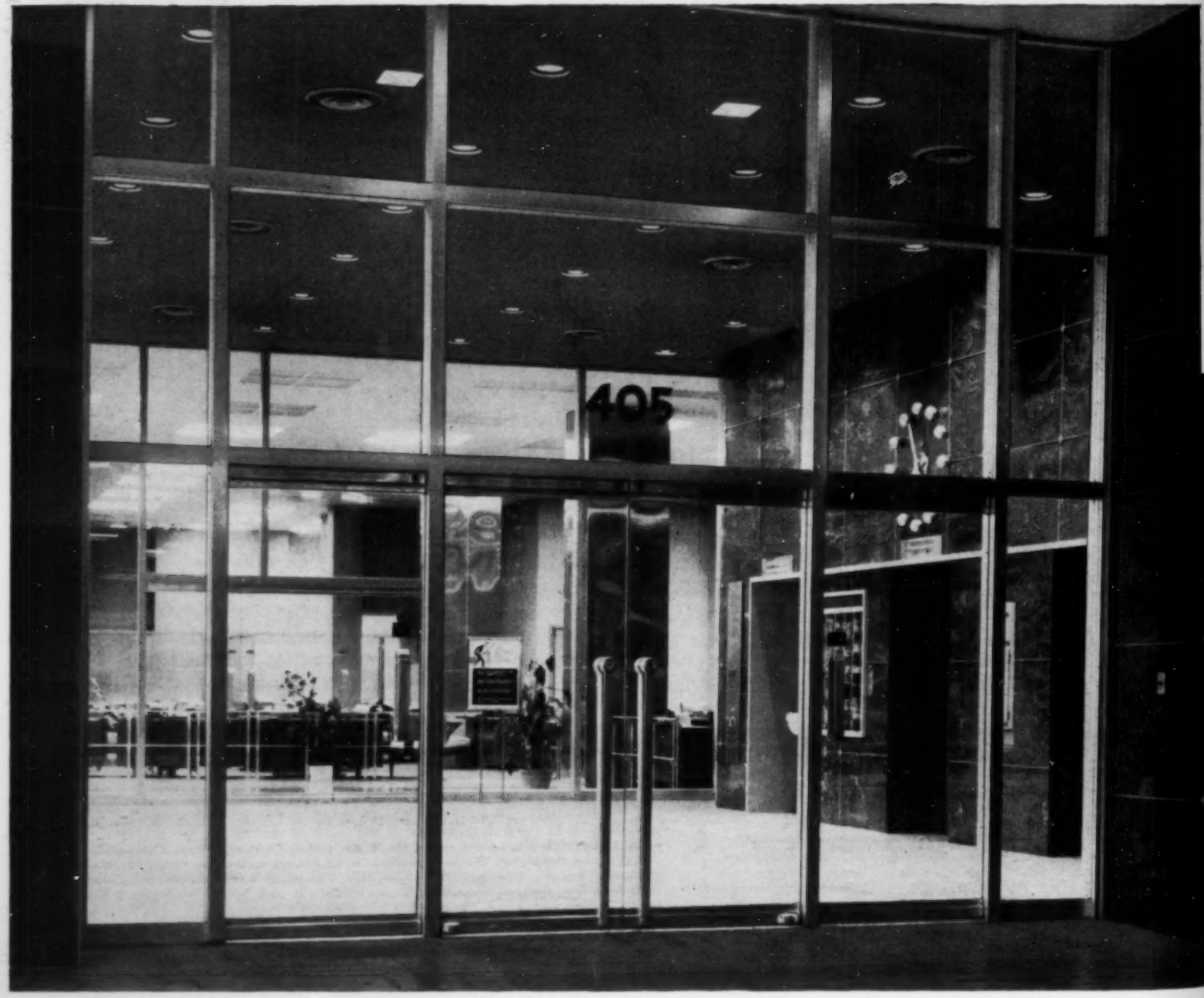
PHELPS DODGE COPPER PRODUCTS
CORPORATION

**SALES OFFICES:** Atlanta, Birmingham, Ala., Boston, Buffalo, Charlotte, Chicago, Cincinnati, Cleveland, Dallas, Detroit, Fort Wayne, Greensboro, N. C., Houston, Jacksonville, Kansas City, Mo., Los Angeles, Memphis, Milwaukee, Minneapolis, New Orleans, New York, Philadelphia, Pittsburgh, Portland, Ore., Richmond, Rochester, N. Y., San Francisco, St. Louis, Seattle, Washington, D. C.

# Two good reasons why PITTSBURGH DOORS are preferred for buildings of all kinds

## HERCULITE®

The use of Pittsburgh's HERCULITE Doors and Polished Plate Glass gives this entrance to the new building of the First Security Bank of Salt Lake City, Utah, an open, spacious feeling. Installations such as this one do so much to please existing customers and attract new business. That is why architects and building owners overwhelmingly turn to Pittsburgh for their entrance requirements. Two of the four HERCULITE Doors installed here are equipped with the PITTCOMATIC® automatic door opener. Architects: Bank Building and Equipment Corporation of America, St. Louis, Mo.; Associate Architect: Slack W. Winburn, Salt Lake City.



## TUBELITE®

In the new Harris' Supermarket, Waycross, Georgia, TUBELITE Doors give the entrance an inviting look. The mat-operated PITTCOMATIC automatic door openers are ideal for this service, making it easy for customers to enter and leave without the bother of pushing doors. TUBELITE Doors and Frames are noted for their extreme architectural flexibility. Their clean, simple lines make them adaptable to any scheme. TUBELITE marks a decided advance in hollow metal entrance design. The frames have an exclusive interlocking feature which affords utmost rigidity. TUBELITE offers a high-quality product at moderate cost.

The nation's finest automatic door opener, the PITTCOMATIC, opens HERCULITE and TUBELITE Doors at the lightest touch. Available for handle, mat, or remote operation, it is the easiest automatic door opener to install and maintain . . . the safest to operate.

For complete information on Pittsburgh Doors, see Sweet's Architectural File—Sections 16a and 16d. If further specific details are required, write direct to Pittsburgh Plate Glass Company, Room 8133, 632 Fort Duquesne Blvd., Pittsburgh 22, Pennsylvania.

# PITTSBURGH DOORS

. . . for entrances of enduring distinction

75th ANNIVERSARY 1883—1958

SYMBOL OF SERVICE FOR SEVENTY-FIVE YEARS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

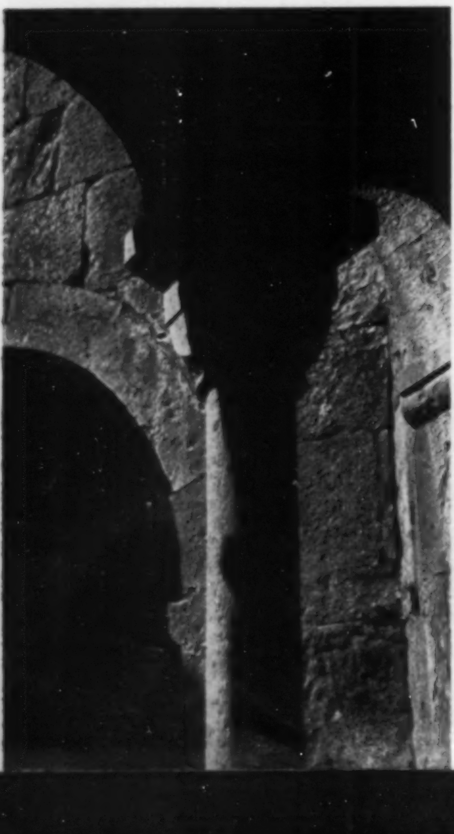
# Books

## French monastery . . . U.S. design . . . Japanese gardens

**ARCHITECTURE OF TRUTH.** Arranged with Quotations and Notes by Francois Cali. Published by George Braziller, Inc., 215 Fourth Ave., New York 3, N.Y. 164 pp. Illus. $15

This walk through the twelfth-century Cistercian monastery of Le Thoronnet is one of the most inspiring experiences to be had in the realm of architectural literature. M. Herve's photographs are magnificent, fully up to Le Corbusier's introductory claim that "the pictures in this book are witnesses to the truth."

Stone by stone, arch by arch, through damp passageways into brilliant sunlight the reader is led, accompanied by perfectly harmonized scriptural and poetic selections.



**PROBLEMS OF DESIGN.** By George Nelson. Published by Whitney Publications, Inc., 18 E. 50th St., New York 22, N.Y. 205 pp. 8½" x 8½". $10

Some readers may find the title more than a bit forbidding. But for George Nelson, a notable architect, industrial designer, and one-time managing editor of FORUM, the "Problems of Design" cover a fascinating range of subjects, from the planned obsolescence of buildings to the wiry underpinnings of modern furniture.

The 26 essays in the book cover, in fact, a world as wide as Nelson can make it. Without attempting anything like an organized exposition, the book collects a variety of his speeches and magazine articles in one place.

This is eminently worth doing. For Nelson has a lucid writing style and a rare sense of humor. He has an inquiring mind that often bends to the speculative. The book reveals him at his best.

**GARDENS OF JAPAN.** By Tetsuro Yoshida. Published by Frederick A. Praeger, Inc., 15 W. 47th St., New York 36, N.Y. 187 pp. Illus. $12.50

The late Professor Yoshida was as responsible as any Japanese artist for the reasonably sturdy bridge of understanding that now exists between the architecture of his country and that of the Western world. Both in his written works and in his own buildings, he encouraged the understanding of foreign students. He accomplishes just that in his last book on Japanese gardens. What is dealt with here is not the exclusivity of this form of Japanese art, but its validity in terms of pure design.

A handsome and instructive volume.

### BOOKS RECEIVED

FARM HOUSING. By Glenn H. Beyer and J. Hugh Rose. Published by John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N.Y. 194 pp. 9" x 6". $6

CITY AND SUBURBAN HOUSING. Edited by Poyntz Tyler. Published by H. W. Wilson Co., 950 University Ave., New York 52, N.Y. 190 pp. 5¼" x 8". $2

THE CIVIC AND ARCHITECTURAL DEVELOPMENT OF PROVIDENCE. By John Hutchins Cady. Published by The Book Shop, 75 Westminster St., Providence 3, R.I. 319 pp. Illus. 11" x 8½". $12.50

*continued on page 142*

NEWS ABOUT SEAPORCEL ARCHITECTURAL PORCELAIN

Seaporcel
also manufactures
COLORFUL
PERMANENT
PORCELAIN
ENAMELED
ALUMINUM

FORMED
ARCHITECTURAL PARTS

EXTRUSIONS

LOUVRES

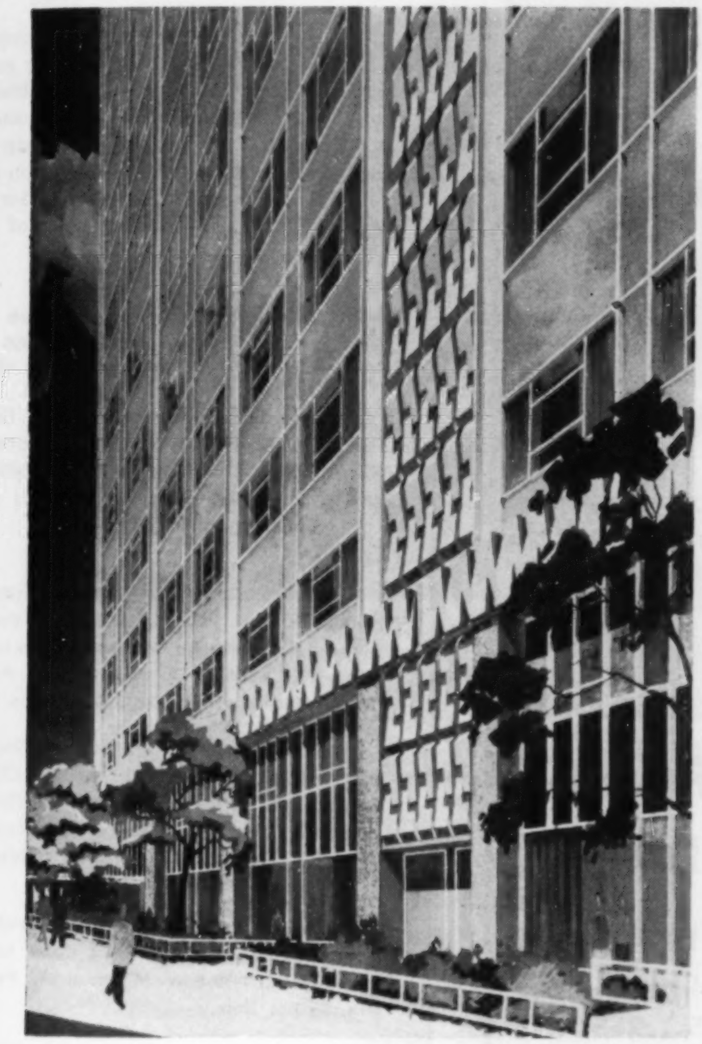
TRIM

SPANDREL and
MULLION PANELS
Insulated—Laminated
with a variety of core materials
to render specified "U" factors.

Seaporcel
ARCHITECTURAL
PORCELAIN

SEAPORCEL METALS, INC.
28-20 Borden Ave., L. I. City 1, N. Y.

# PARK AVENUE HOSPITAL FACED WITH SEAPORCEL AND SEAPORCLAD PANELS



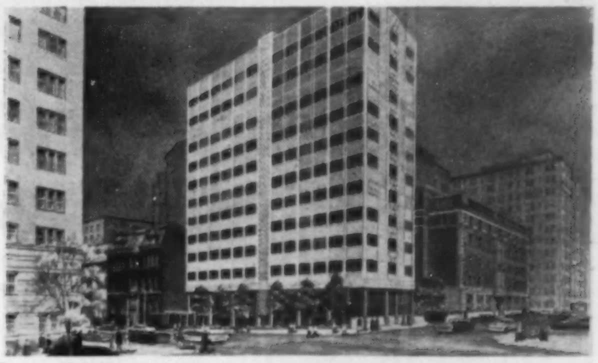
NEWS ABOUT SEAPORCEL ARCHITECTURAL PORCELAIN

Rogers & Butler, New York architects, have used a unique design approach for this $4,500,000 addition to the Lenox Hill Hospital, New York City. They have incorporated extra-large Seaporclad porcelain enamel panels contrasted dramatically with new, custom-made, Seaporcel formed panels exhibiting in full third dimension a prismatic configuration.

Used for the first time are two-tone, dusty pink laminated-insulated panels, 7 ft. x 10 ft. fitted into 10 ft. x 13 ft. modular aluminum frames. The sandwich construction includes an insulating core providing complete incombustibility, insulation and sound deadening qualities. Contrasting with the flat-surface curtain wall facade are the new Seaporcel formed panels, used as a vertical accent and as a decorative band course above the second floor.

Said Rogers & Butler of the two new panels: "This development represents a forerunner in the search by contemporary architects to achieve greater interest, variety, color and texture in new buildings designed for today's needs. They offer a means to practical economy, since they bring larger, prefabricated components, with factory-assembly precision to the building site."

For more information about Seaporcel and Seaporclad write for brochure 16.



Lenox Hill Hospital—$4,500,000 addition—located at Park Avenue and 77th Street, New York City.

For some job...somewhere...you can use

**Seaporcel**

**ARCHITECTURAL PORCELAIN**

**SEAPORCEL METALS, INC., 28-20 Borden Avenue, Long Island City 1, N. Y.**
**Boston, Mass. • Philadelphia, Pa. • Washington, D. C. • Newark, N. J. • Agents in principal cities**

SEE OUR CATALOG IN SWEET'S

Complete Engineering and Erection Departments. A. F. of L. Metal Fabricating and Enameling Plant. Member: Porcelain Enamel Institute.

These licensed manufacturers fabricate SEAPORCEL products in the countries listed below. Personnel trained in SEAPORCEL's U.S. plant

**IN AUSTRALIA:** Metters, Ltd., Sydney, New South Wales
A. Simpson & Son, Ltd., Adelaide, South Australia
**IN AUSTRIA:** Kleiner & Fleischmann, Moedling, N. Oe.
**IN BRAZIL:** Rheem Metalurgica, S.A., Rio De Janeiro
**IN CANADA:** General Steel Wares, Ltd., London and Toronto, Ont
**IN CHILE:** Fabrica de Enlozados, S.A., "Fensa", Santiago
**IN DENMARK:** Glud & Marstrands Fabriker, Copenhagen
**IN FRANCE:** Societé Equipement Menager Japy, Paris
**IN GREAT BRITAIN:** Edward Curran Engineering, Ltd., Cardiff, Wales
**IN HOLLAND:** N. V. Emailleerfabriek "De Ijsel", Dieren
**IN ITALY:** S.I.L.T.A.L. & Filiberto Crespi, Milan
**IN NORWAY:** A/S Teknoglass, Sub. Co. of A/S Moss
Glasvaerk, Moss
**IN SWITZERLAND:** Metallwarenfabrik Zug, Zug
**IN TURKEY:** Madeni Esya Sac ve Emaye Fabrikalari
T.A.S., Bakirkoy, Istanbul

## Books

cont'd

**ESTIMATING GENERAL CONSTRUCTION COSTS.** Second Edition. By Louis Dallavia. Published by F. W. Dodge Corp., 119 W. 40th St., New York, N.Y. 197 pp. 6¼" x 9¼". $8.50

**THE ENGLISH CATHEDRAL THROUGH THE CENTURIES.** By G. H. Cook. Published by The Macmillan Co., 60 Fifth Ave., New York 11, N.Y. 384 pp. 5¾" x 9¼". Illus. $9

**MODERN SCHOOL SHOP PLANNING.** Revised Edition. Published by Prakken Publications, 330 Thompson St., Ann Arbor, Mich. Spiral bound. 184 pp. 8½" x 11". Illus. $3.85

**JAPANESE ARCHITECTURAL TECHNIQUES.** Published by The Architectural Institute of Japan, Tokyo, Japan. 67 pp. 5¾" x 8½". Illus.

**AMERICAN CIVIL ENGINEERING PRACTICE.** In three volumes. By Robert W. Abbett. Published by John Wiley & Sons, Inc., 440 Fourth Ave., New York, N. Y. 5¾" x 8½". $55.00 the set

**HANDBOOK OF REAL ESTATE FORMS.** By E. J. Friedman. Published by Prentice-Hall, Inc., Englewood Cliffs, N.J. 441 pp. 6" x 9"

### TECHNICAL PUBLICATIONS

*A selection of new handbooks, textbooks, technical reports, brochures, and commercial leaflets, noteworthy for their information content or pictorial format or both.*

**1958 GLASS BLOCKS CATALOGUE.** Published by Pittsburgh Corning Corp., 1 Gateway Center, Pittsburgh 22, Pa. 32 pp. Illus.

A detailed outline of this company's glass-block technique for building curtain walls. Light transmission, insulation values, accessory materials, and complete specifications are presented. Clean page layout, some fine photos and section drawings, plus a special take-out on color glass blocks make this a catalogue of more than routine interest.

**PAINT: ARCHITECTS' SPECIFICATION MANUAL.** Published by the Glidden Co., 900 Union Commerce Bldg., Cleveland 14, Ohio. 27 pp.

An easy-to-follow description of Glidden painting systems for a variety of surfaces, with detailed attention to application methods, drying times, calculated coverages, and recommended thinners.

**WOOD: COLORS AND KINDS.** Agricultural Handbook No. 101. Published for the U.S. Dept. of Agriculture's Forest Products Laboratory by the Supt. of Documents, Govt. Printing Office, Washington 25, D.C. 36 pp. Illus. 50¢

The first comprehensive nontechnical guide to the identification of different woods, with a large section of technically accurate color photographs of representative U.S. woods. A handsome publication.

**WESTERN RED CEDAR LUMBER:** Grades and Uses. Published by the West Coast Lumbermen's Assn., 1410 S.W. Morrison St., Portland, Ore. 35 pp. Illus.

Complete information on this versatile, reddish, decay-resistant wood, with full-page color illustrations of representative grades, conversion tables, information on grade stamps, recommended nailing practices, roof-decking spans.

**RECOMMENDED PRACTICE FOR WINTER CONCRETING (ACI 605-56).** Published by the American Concrete Institute, 18263 W. McNichols Rd., Detroit 19, Mich. 24 pp. Illus. 75¢

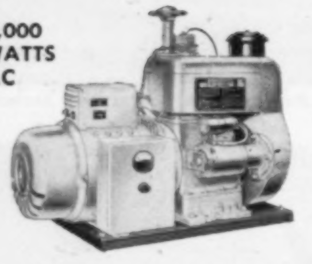
Technical data on methods and mixes for concreting during cold weather to insure fast setting, prevent damage from freezing and thawing, maintain proper curing conditions.

**STAINLESS STEEL CATALOGUE.** Published by Sharon Steel Corp., Sharon, Pa. 32 pp. Illus.

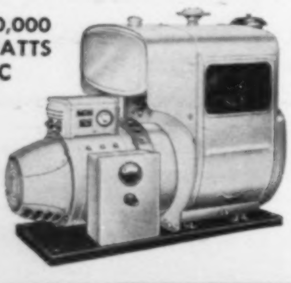
A technical summary of the most used stainless steels, covering composition, strength, and typical applications. END

POWER
WHEN IT'S NEEDED
with WINPOWER

**Low-cost, Dependable Power–Stand-by, Primary, Portable**



OTHER MODELS FROM 500 WATTS to 100 KW—all voltages and phases.

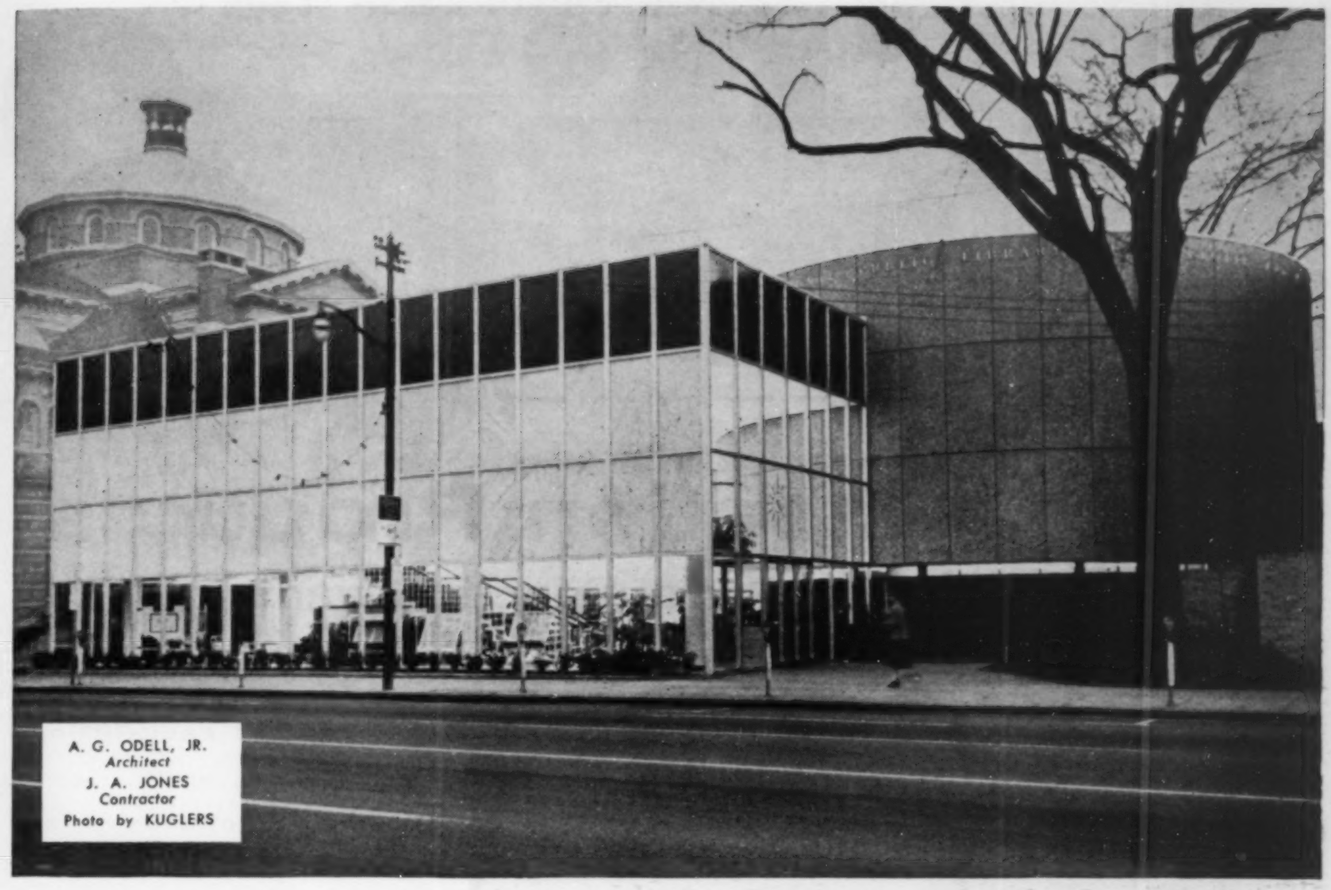


**FOR HOMES . . . ESTATES . . . HOSPITALS . . . SCHOOLS . . . STORES . . . HOTELS . . . RESORTS . . . THEATERS . . . BUILDINGS!**

Power failures always occur when you least expect them. When a WINPOWER Plant is on the job, it takes over instantly through automatic line transfer controls when regular power fails. No interruption to lighting, heating, refrigeration, elevator operation or other electrical services.

Get the facts about WINPOWER LOW COST STAND-BY GENERATOR PLANTS without cost or obligation. Attach this ad to your letterhead and mail today for illustrated literature and complete information.

**WINPOWER MFG. CO., Dept. G-132, NEWTON, IOWA**


A. G. ODELL, JR.
*Architect*
J. A. JONES
*Contractor*
*Photo by* KUGLERS

# AS MODERN AS TOMORROW WITH VAMPCO ALUMINUM CURTAIN WALLS . . .

The beautiful new Charlotte Public Library, Charlotte, N. C. pictured above has used Vampco 200 series Aluminum Curtain Walls with 5" I Beam most effectively to provide full natural lighting and structural strength as well as to accentuate the modern lines of the building itself. A. G. Odell, Jr., Architect, has done an outstanding design job in this new building that is receiving widespread attention in the architectural field. Note the marked contrast in design to the many older buildings in the surrounding area. Vampco Aluminum Windows are available for every type of construction. They include: casement, combination casement, awning, intermediate projected, window wall of varying sizes and thicknesses, heavy construction, glass block and custom-designed types. Find out how VAMPCO's special designing service can help you solve your unusual building problems most economically and efficiently . . . mail coupon below today!

**VALLEY METAL PRODUCTS CO.**
PLAINWELL, MICHIGAN
*SUBSIDIARY OF*
MUELLER BRASS CO.
PORT HURON, MICHIGAN

See Complete File in Your Current Sweet's Catalog

VAMPCO

A NAME THAT MEANS THE VERY FINEST IN LIFELONG ALUMINUM WINDOWS

**VALLEY METAL PRODUCTS COMPANY**
Dept. AF-28, PLAINWELL, MICH.

☐ Send 56-page Industrial-Institutional Window Catalog.
☐ Send Light Construction Aluminum Window Catalog.
☐ Send Curtain Wall Catalog.

NAME........................................
COMPANY........................................
ADDRESS........................................
CITY......................ZONE....STATE.........

Only
**CELOTEX**
gives you the

# Big 3

# Roof Insulation Products

## with all these Performance Advantages

### 1 PRESEAL

Asphalt coating on sides and edges protects against moisture pickup at job site; also provides excellent surface for mopping and bonding to deck or felt with either asphalt or pitch.

### 2 REGULAR

For 35 years the recognized standard in roof insulation where lowest cost is important. Meets or exceeds all applicable Specification Standards. Natural, textured surface makes strong bond with pitch or asphalt.

### 3 CHANNEL-SEAL

Asphalt-coated board featuring bevels on deck-side edges, forming a network of connecting channels across the entire roof area. Channels are means of equalizing air pressure between roofing and deck, thus minimizing any pressure build-up and hazard of roofing blisters.

- ✓ Rugged—hard to damage
- ✓ Clean-cut snug-fitting edges
- ✓ Smooth solid base for felts
- ✓ No worry about punctures or depressions that become weak spots under felt
- ✓ Withstands heavy traffic
- ✓ Strong, rigid, crush-resistant
- ✓ Uniform density and thickness
- ✓ Permanent, efficient insulation
- ✓ Over 30 years job-proved service
- ✓ Billions of feet in use

**All three products available in a complete range of Conductances (C-values).**

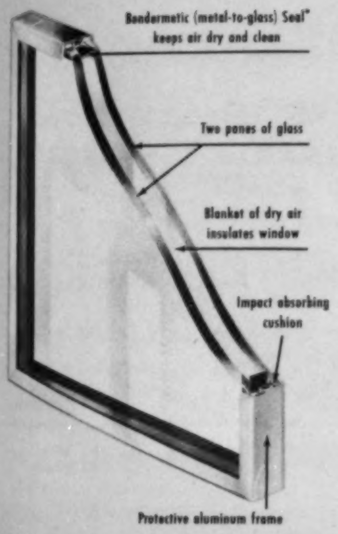
•

**See 1958 Sweet's Architectural File, Catalog 10a-Ce. Write for Specifications, Samples, Information Manual.**

**CELOTEX** ROOF INSULATION
REG. U.S. PAT. OFF.
THE CELOTEX CORPORATION, 120 SOUTH LA SALLE STREET, CHICAGO 3, ILLINOIS

**L O F GLASS®** **NEW PRODUCT NEWS from LIBBEY·OWENS·FORD**

## *Thermopane®* HAS A CUSHIONED ALUMINUM FRAME PLUS BONDERMETIC SEAL®...stronger...easier to handle...easier to install!


Bondermetic (metal-to-glass) Seal® keeps air dry and clean
Two panes of glass
Blanket of dry air insulates window
Impact absorbing cushion
Protective aluminum frame

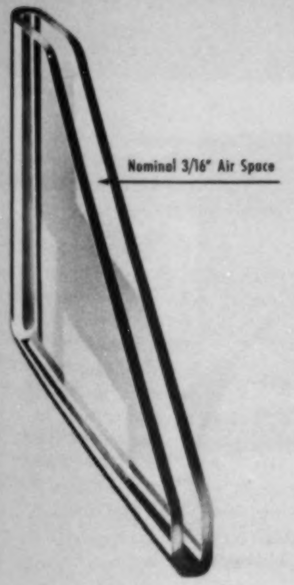
### recommended for all window areas, window walls and sliding glass doors

Now, *Thermopane* provides the important advantages of the *Bondermetic Seal plus* an impact-absorbing cushioned frame.

The exclusive time-proven, metal-to-glass seal prevents infiltration of moisture and dust into the dehydrated, insulating air space.

In this new *Thermopane* a strong aluminum frame covers the glass edges which are clean-cut—not ground—and therefore are stronger. The frame makes handling and installation easier, protects glass edges and corners from damage.

## NEW GLASSEAL *Thermopane* SETS NEW QUALITY STANDARDS FOR ALL-GLASS INSULATING UNITS!


Nominal 3/16" Air Space

### recommended for standard size, pre-glazed window sash, wood or metal

L·O·F's new GlasSeal *Thermopane* is made of DSA sheet glass (double-strength, "A" quality window glass). The uniformly rounded, smooth, true edges make it easier and faster to glaze.

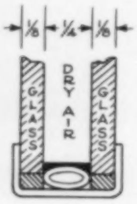
The dehydration hole is located on the edge, out of view and when glazed is completely covered by the window sash. It is not exposed so there is no damage during window cleaning.

Now, window sash delivered to the job pre-glazed with GlasSeal *Thermopane*, make it easier to provide insulated windows throughout . . . to make homes more comfortable winter and summer . . . to reduce heating and air-conditioning costs . . . to make homes more salable!

***see following pages for technical data ▶***

## NEW, CUSHION-FRAMED *Thermopane*®

## Available from L·O·F Distributors and Dealers in standard sizes



↑

Cross-sections actual size

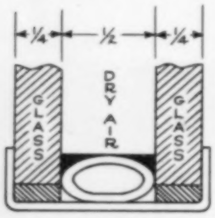
↓

### ½-INCH THERMOPANE

Two lights of ⅛″ polished plate glass or DSA window glass with ¼″ air space—57 standard sizes.

*Thermopane* made with DSA Glass is economical double-glazing. While made with the finest quality window glass, it does not provide the clarity of vision and good exterior appearance attained with polished plate glass.

½-inch *Thermopane* made of two lights of ⅛″ polished plate glass with ¼″ air space provides better vision and finer appearance in homes and other buildings.



### 1-INCH THERMOPANE

Two lights of ¼″ polished plate glass with ½″ air space—56 standard sizes. This *Thermopane* provides excellent thermal insulation, combined with the clarity of vision that you get with plate glass. Ideal for picture windows and window walls.

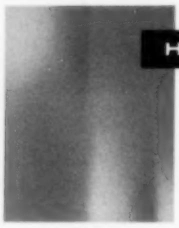
## KINDS OF GLASS USED IN CUSHION-FRAMED *Thermopane*®

**SHEET GLASS**

Double-strength "A" quality and 3/16″ sheet glass. Economical double-glazing.

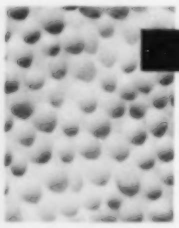
**POLISHED PLATE**

⅛″ or ¼″ polished plate glass for finest optics and appearance.



**HEAT ABSORBING**

⅛″ or ¼″ *Heat Absorbing Plate Glass*, a transparent blue-green glass, used to reduce solar heat and light transmission. ¼″ *Parallel-O-Grey* Plate Glass can be combined with a clear pane in *Thermopane* to reduce glare and cut solar heat entrance. Colors seen through this tinted glass remain true.



**PATTERNED GLASS**

While *Thermopane* is made with many Blue Ridge patterns for light diffusion, it is available for faster delivery when fabricated with Flutex®, Hammered, or Velvex®. For filtered daylight, *Thermopane* can be made with Hammered AKLO*.

**TEMPERED PLATE**

For extra resistance to thermal shock or impact, ¼″ *Tuf-flex*® tempered plate glass can be used.

**Registered Trade Mark — licensed by Corning Glass Works*

# INSULATING GLASS WITH BONDERMETIC SEAL

## PERFORMANCE DATA

As compared to single glass, heat loss through windows is reduced 44% by using insulating glass that has a ¼″ air space. With a ½″ air space, heat loss is reduced 50%.

The over-all heat transmission coefficient U varies with the ranges of temperature at which it is determined. For most practical heat loss calculations, coefficient U is the value determined at 10 degrees outside temperature, 70 degrees inside temperature, 15 mph outside air velocity, and 0.25 mph average inside air velocity.

| Kind of Glass | Glass Thickness | U Value |
|---|---|---|
| Single Glass | ⅛″<br>¼″ | 1.16<br>1.15 |
| Thermopane Insulating Glass | ⅛″ or ¼″ | ¼″ air space .65<br>½″ air space .58 |

## SOUND INSULATION

*Thermopane* also reduces sound transmission, a great virtue in noisy locations. Units 1″ thick reduce noise transmission 44% compared with ¼″ single glass.

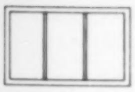
## GLAZING INFORMATION

Since *Thermopane* is a factory-sealed insulating glass unit and is subject to movement due to changes of temperature and barometric pressure, adequate provision should be made for expansion and contraction.

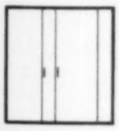
An approved cushioning material must be used so there is no contact between the sash and glass at any point. L·O·F has available Neoprene setting blocks for units ½″, ¾″, ⅞″, and 1″ thick. Also, for units ½″ thick, the company can supply a metal glazing clip for use in steel, aluminum and wood sash. Under no condition should units be forced into any type of sash. Face clearances between glass and stops must be at least ⅛″. Edge clearances between glass and frame must not be less than ⅛″ on each edge for ½″ *Thermopane*, and ¼″ on each edge for units over ½″. For detailed glazing information, ask for *Thermopane* Manual.

The contractor, architect and building owner should assume responsibility in seeing that glazing instructions are followed and *not accept the job if they haven't been.*

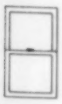
## Cushion-Framed *Thermopane* can be used in these standard types of window sash and sliding doors



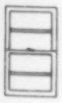
- Picture Windows and Window Walls 56 sizes



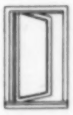
- Sliding Doors 3 sizes



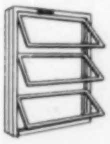
- Double Hung Windows (2-light) 14 sizes



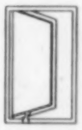
- Double Hung Windows (4-light) 14 sizes



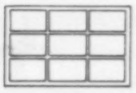
- Wood Casements 7 sizes



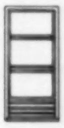
- Wood Awning Windows 6 sizes



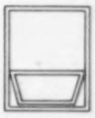
- Residential Steel Casements 6 sizes



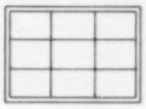
- Wood Panel Windows 2 sizes for fixed lights 2 sizes for ventilators



- Panel Window with Louvers 1 size



- Modified Wood Panel Window 1 size



- Metal Panel Windows 1 size for fixed lights 1 size for ventilators

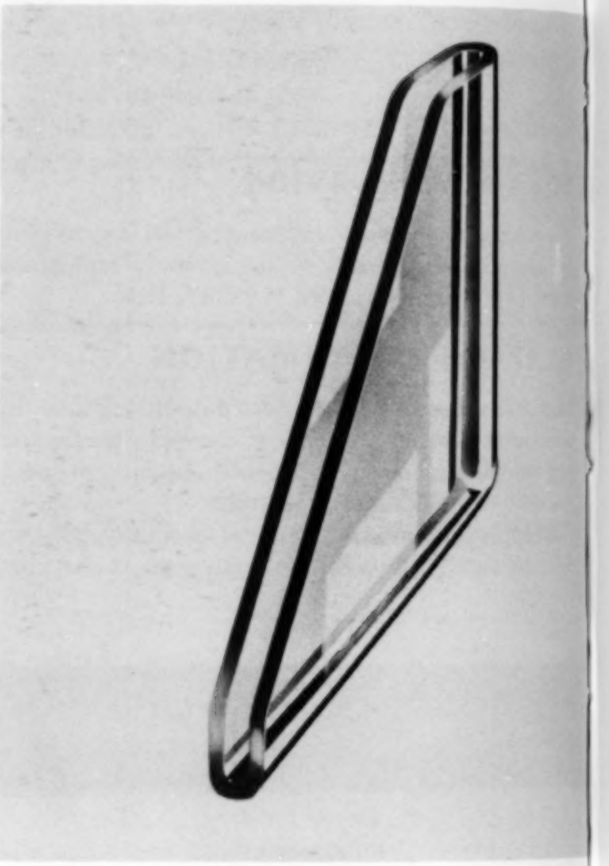
**For further information, contact your local L·O·F Glass Distributor or Dealer (listed under "Glass" in phone book yellow pages) or write to Libbey·Owens·Ford Glass Company, 608 Madison Ave., Toledo 3, Ohio.**

# GLASSEAL *Thermopane*®

## INSULATING GLASS

## TECHNICAL INFORMATION

GlasSeal *Thermopane* is a factory-fabricated insulating unit. It cannot be cut or altered in any way. The smooth, clean edges make units easy to glaze. Glazing information available upon request.



### KIND OF GLASS

GlasSeal *Thermopane* is available only in DSA Sheet Glass with a nominal $\frac{3}{16}$″ air space. Total thickness of units, .450 ± .050.

### STANDARD SIZES

Now available in five standard sizes: 45½″ x 25½″, 42½″ x 22½″, 36″ x 24″, 34$\frac{11}{16}$″ x 22$\frac{11}{16}$″, 32″ x 16″.

Special sizes can be fabricated in production run quantities of 500 units or more, within the size limitations stated below.

### SIZE LIMITATIONS

Dimensions in one direction cannot be less than 14″ or more than 38″, and not over 62″ in the other direction. Total area of unit cannot exceed 1,440 sq. in.

For further information, contact your local L·O·F Distributor or Dealer (listed under "Glass" in the phone book yellow pages) or write to

**LIBBEY·OWENS·FORD GLASS COMPANY**
608 Madison Avenue · Toledo 3, Ohio

TP-801

Litho in U.S.A.

# The Finishing Touch

## that ASSURES CLIENT APPROVAL!

FLOOR
HILLYARD
TREATMENTS
Shine-All
ST. JOSEPH, MISSOURI, U.S.A.

Beverly Hilton Hotel—Beverly Hills, California
Architect: Welton Becket & Associates—Los Angeles, Calif.

## *specify HILLYARD Floor Treatments for final Clean-Up and Initial Finish*

The floors you have so carefully selected for color and design will be a sorry-looking sight by the time the interior trades have completed their work.

Final clean-up and initial finish are crucial.

Specify safe cleaning with Hillyard neutral chemical Super Shine-All to be sure that ALL the dirt is gone before the finish is applied.

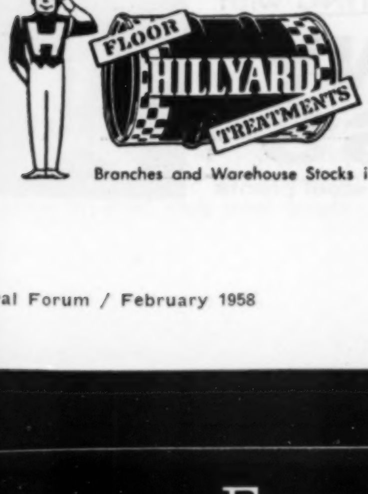
**The local Hillyard "Maintaineer®", a trained floor treatment specialist, will be glad to serve as your own expert consultant, without charge or obligation.**

Be sure color and texture are not damaged by harsh, so called "quick" cleaners.

Specify Hillyard Super Hil-Brite 100% Carnauba Wax to bring out to the full the natural beauty of the flooring material—cover it with a tough, lustrous film of protection that will add years to the floor's life, pleasure to the client's eyes as the floors reflect the beauty of a new building.

**Ask him to survey the floors on your boards, recommend treatments, serve as your "Job Captain".**

**Ask him also for A.I.A. numbered files containing Architect's information on treatment of all types of floors, and detailed step-by-step treatment instructions for use by your contractor.**



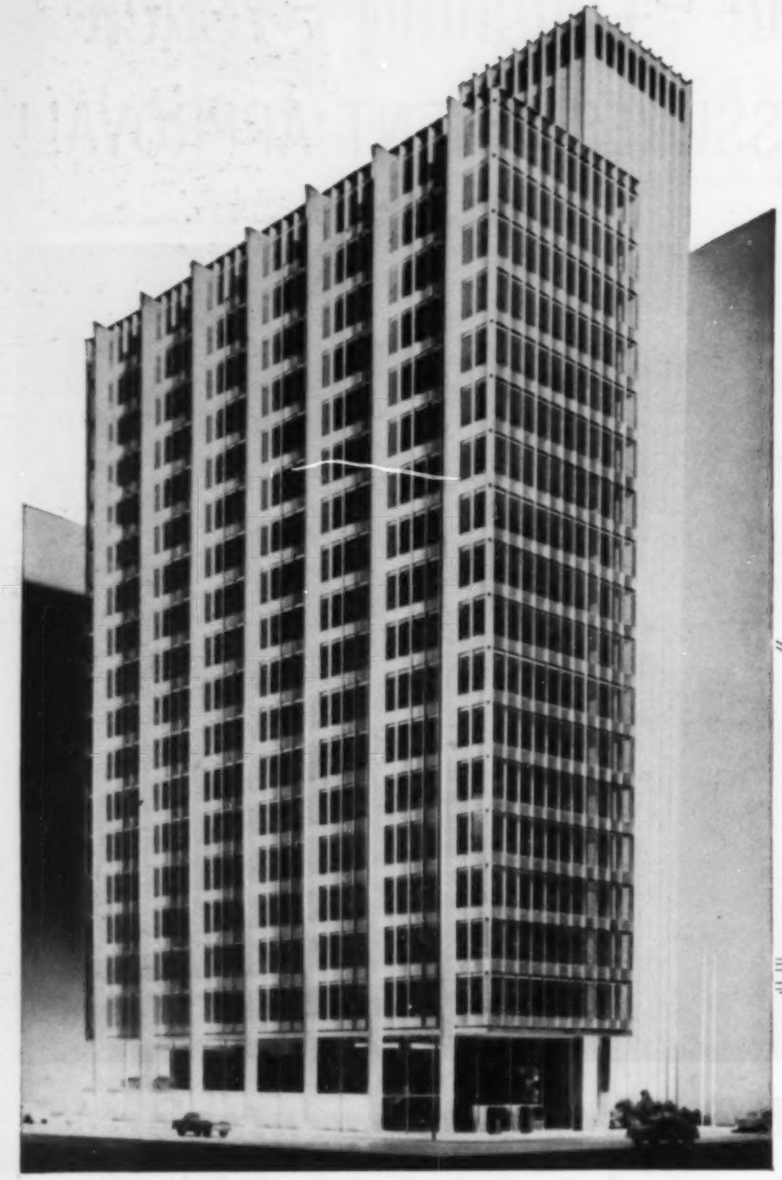
**ST. JOSEPH, MO.**
**Passaic, N. J.**
**San Jose, Calif.**

A-1

**Branches and Warehouse Stocks in Principal Cities**

*The Hillyard Maintaineer is "On Your Staff, Not Your Payroll"*

## FIRST BUILDING TO USE THE NEW NICKEL-SAVING ALLEGHENY-PIONEERED STAINLESS STEEL (TYPE 202)



CHICAGO'S NEW INLAND STEEL BUILDING *(Photo by Hube Henry, Hedrich-Blessing)*
Skidmore, Owings and Merrill—*Architects* . . . Turner Construction Co.—*Gen. Contractor*

The Inland Steel Company's new headquarters in Chicago numbers some important firsts among its outstanding features. It is the first large office building to be built in Chicago's loop in 20 years. It is also Chicago's first stainless curtain wall building, and the first building anywhere to use the new low-nickel stainless grades pioneered by Allegheny Ludlum.

Allegheny 200-series stainless steels (Types 201 and 202) are the answer to one of the knottiest problems that have faced architects and designers who want to use the superior durability, strength and beauty inherent in stainless steel. Now, with the introduction of the 200-series it is possible to think in terms of stainless steel without fear of shortages. In most applications the 200-series performs as well as the 300-series of stainless steels, and they offer unique advantages of their own. There is some advantage in price, strength is slightly higher and availability is much greater in times of nickel shortage. Weldability, forming and finishing characteristics are virtually the same as with the 300-series.

● If these new steels sound interesting to you, give us a call. *Allegheny Ludlum Steel Corporation, Oliver Building, Pittsburgh 22, Pa.*

WSW 6673

**WRITE FOR DATA**

**ASK** for a copy of our "Technical Horizons" bulletin on the Allegheny 200-Series stainless steels.

**ADDRESS DEPT: B-2**

Make it BETTER and LONGER LASTING with

**ALLEGHENY STAINLESS**

Warehouse stocks carried by all Ryerson steel plants

# Excerpts

## What other people are saying

### ARCHITECTURE'S CHANGES

*Last autumn Robert W. McLaughlin, Director of Princeton's School of Architecture, gave the University's Committee on Capital Needs an informal talk on the trends in architecture that are affecting the school's curriculum.*

The most important changes to architecture within the life of this school [since 1919] fall into three categories:

The first category involves the impact of science and technology on the art of architecture. We as architects did not dream this up; it happened to us. Outstanding examples of this impact are space-enclosing methods like thin shell domes, space frames, and curtain walls. Other examples lie within the area of mechanical equipment, indicated by a new vocabulary of radiant heating, air conditioning, and climate control. When we realize that 45 per cent of the cost of some buildings lies in mechanical equipment, rather than in the building proper, we realize how powerfully these methods have impinged on architecture as we once knew it. A wealth of new materials—plastics, new nonferrous metals, or synthetic adhesives, to mention only a few—have raised stimulating possibilities as well as many technical and aesthetic problems. This technological impact has increased at a constantly accelerating rate, being most obvious since World War II. It shows no signs of abating.

A second category of change has involved a widening concept of the scope of architecture. From an exclusively individual art in the tradition of the Renaissance, catering to a limited group of patrons and dealing with the more delicate aspects of visual taste, architecture has returned to a natural and more universal state. We are in a less self-conscious period than the Renaissance. No longer is Park Avenue to be considered architecture, while the slums behind are discussed as merely slums—they are bad architecture. Lake Shore Drive is hardly satisfactory as a mining-camp building front for the tawdriness of Wabash Avenue and the rest of Chicago to the west.

Housing and town planning and urban redevelopment are as much the field of the architect as country houses or golf clubs are.

The third category of change involves the visual or expressive side of architecture—one most readily recognized because it is what architecture looks like. After an unprecedented period of eclecticism, during which basic decisions in the design of architecture involved such moot points as whether to lay on Gothic or Georgian detail, architecture has been painfully returning to its rightful place as the natural, logical, and occasionally beautiful expression of the time in which it is created.

### INVITE THE CONTRACTOR

*In a day of searching for new ways to lower school costs, Architect J. M. Barrow of Urbana Ill. has made a sensible suggestion: invite the contractor to join the planning committee. The suggestion was made in a recent article in* The Nation's Schools.

I propose that one more member, one of great importance, be added to the building team. That new member is the builder, sometimes known as the general contractor. For too long we have held the builder at arm's length, until his low bid won him a place on the team. And this is *after* the plans and specifications are fixed. The architect must recognize the value of working closely with the builder during the development of the building plans and material specifications.

A local building contractor is best qualified to determine the availability and cost of proposed materials. He is familiar with the local union situation and knows whether any jurisdictional problems exist within the various building crafts. He knows the skill of the available craftsmen and the probable availability of manpower at the time the proposed building would be under construction. Only a contractor who is building a particular project can actually bring about a savings. The architect may plan and hope for it, but it takes the contractor with the low bid to confirm that opinion and to pass the savings on to the owner.

### $500 BILLION OF HOUSING

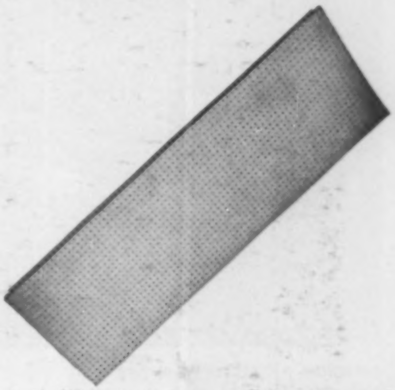
*James H. Scheuer, long a spokesman for enlightened renewal policies, wagged a warning finger at the Administration in his speech at ACTION's Pacific Coast Urban Renewal Clinic in October.*

There seems to be a growing body of evidence that the highest administration echelons still view the entire urban renewal and housing program as a device for stabilizing the economy—as a spigot, to be turned on and off as current economic and fiscal forces run their ever

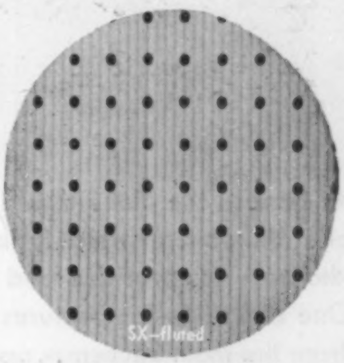
*continued on page 148*

***The First . . .***

**textured aluminum acoustical ceiling panels are those of the CEILECT line of the Simplex Ceiling Corp. This line was designer conceived to put a new softness, new surface interest in metal pan ceilings.**



**CEILECT textured panels are available in permanent, natural and color anodized finishes. They are dead flat and square edged for almost invisible fine line joints. The panels are 12″ wide and come in lengths up to 36″—and anything in between.**



**For sample squares and literature send to the Simplex Ceiling Corp., 552 West 52 St., New York 19, N. Y.**

**SIMPLEX**

CEILING CORP.

552 WEST 52 ST., NEW YORK 19, N. Y.

Please send me sample squares of CEILECT textured aluminum acoustical ceiling panels.

Name ........................................

Firm ........................................

Address ........................................

City ..............Zone....State..........

changing course. The viewpoint, if continued, will surely be recorded as one of the tragic blunders in domestic policy in modern times.

We know from our post-World-War-II experience that the only acceptable way for us to channel and control these powerful population forces is to plan *in advance*. Once the unplanned surge has taken place and time has run out, the price will be paid and the battle lost.

We have heard some talk in recent months that it would be well to turn back responsibility to the cities and states for the provision of the immense volume of needed housing and community facilities. A few cold hard facts of life in this connection might be pertinent.

Consider, first, the total volume of needs for community facilities of all kinds. In 1954 the Department of Commerce estimated that cities across the nation would be required to spend during the decade ending in 1964 approximately $200 billion to bring municipal facilities and services up to the minimum acceptable level. These would include expenditures for roads, schools, sewers and water facilities, hospital plants, and so forth. Against the target of $20 billion a year for ten years, city and state governments are now spending approximately $10 billion annually.

Thus, the current deficit is growing each year. But even with this inadequate level of expenditures, cities and states have increased their bonded indebtedness threefold since 1946—from about $15 billion to about $50 billion. To meet the Commerce Department's estimate of community needs, they would have to treble their present level of bonded indebtedness in the decade to come.

Consider, secondly, the immense volume of housing needs. By 1975 we will have to produce about $300 billion of new housing for the 20 million additional new families in our expanding metropolitan areas. And, in addition, the Twentieth Century Fund's monumental study, "America's Needs and Resources," advises us that we must spend almost $100 billion to bring our present housing inventory up to a satisfactory minimum standard, by rehabilitation where feasible and by demolition and renewal where the bulldozer is the only indicated treatment for the cancer of blight.

Lastly, the various public improvement programs for slum clearance, highways, schools, and other municipal facilities are currently displacing annually upward of 100,000 families, predominantly low-income minority families. This is creating a demand over the next decade for at least 1 million units of moderate-priced relocation housing, which will cost well over $10 billion. Thus the most conservative and workmanlike estimate of our future housing needs by 1975 ranges upward toward $500 billion—or, in other words, one-half a trillion dollars.

We have considered the full list of urban needs—both housing and community facilities. Now let us consider the comparable resources of local, state, and federal governments. Since 1939, the federal tax take has increased about thirteenfold, whereas total tax revenues of cities and states have increased only three times. With the federal government's revenues from cities and states, it is clear that federal authorities will have to make a meaningful contribution to the enormous job of creating the basic structural forms of the cities and suburbs of tomorrow. The federal government cannot delegate to the cities and states responsibility for these immense expenditures by making minor and inconsequential tax concessions.

It is high time that top administration policy makers established a long-term and continuing program geared to financial support of state and city programs of urban renewal over a period of at least a decade ahead.

*continued on page 150*

THE JOHN VAN RANGE CO.
CINCINNATI, OHIO, U.S.A.
EQUIPMENT FOR THE PREPARATION AND SERVING OF FOOD

DIET KITCHEN
MEMORIAL UNIT
GRACE-NEW HAVEN
COMMUNITY HOSPITAL
NEW HAVEN, CONN.

DIRECTOR: DR. ALBERT W. SNOKE
ARCHITECT: DOUGLAS ORR, NEW HAVEN

**Van helped equip hospital co-operating with Yale**

★ Van is proud to have had a part in equipping for food service the Grace-New Haven Community Hospital . . . 671 patient beds and 97 bassinets . . . unit of the important medical center at New Haven.

★ Besides the diet kitchens on the five patient floors of the Memorial Unit, one of which is illustrated above, Van equipped the main kitchen which provides food for the entire hospital and all cafeterias. One of the design features is the kitchen elevator . . . running up from the main kitchen . . . serving all diet kitchens . . . ideal transportation as it is exclusively for dietary use.

★ If you have food service equipment needs . . . new or modernization . . . it will pay you to use Van's *century of experience*.

**The John Van Range Co.**
**EQUIPMENT FOR THE PREPARATION AND SERVING OF FOOD**
*Branches in Principal Cities*
**328 EGGLESTON AVENUE** **CINCINNATI 2, OHIO**

# Dye maker brightens fuel cost picture

## Burning coal at Toms River-Cincinnati saves 20% on fuel costs, permits *clean* steam generation

The ultra-modern Toms River-Cincinnati Chemicals Corp. plant in Toms River, N. J., produces millions of pounds of dyes a year. A large, dependable steam supply is necessary in this operation for chemical processes and heat. To fill these requirements, the firm's power plant burns *coal*—since the cost of the nearest competitive fuel runs 20% higher. In addition, thanks to automatic operation and modern equipment, the power plant meets the rigid standards of cleanliness required in such manufacturing operations.

### Consult an engineering firm

If you are remodeling or building new power facilities, consult a qualified engineering firm. Such concerns—familiar with the latest in fuel costs and equipment—will effect great savings for you in efficiency and fuel economy over the years.

### Facts you should know about coal

Not only is bituminous coal the lowest-cost fuel in most industrial areas, but up-to-date coal burning equipment can give you 10% to 40% more steam per dollar. Today's automatic equipment pares labor costs and eliminates smoke problems. And vast coal reserves plus mechanized production methods mean a constantly plentiful supply of coal at stable prices.

*For additional case histories on burning coal the modern way or for technical advisory service, write to the address below.*

**BITUMINOUS COAL INSTITUTE** • Southern Building, Washington 5, D.C.

### THE CRITIC'S AMERICA

*Of the many visiting critics who have traveled across the U.S. forming opinions of how it all looks, Sir Hugh Casson, eminent British architect, is one of the best qualified. His conclusions appeared in the New York* Times *Magazine.*

Most thinking Americans are now agreed that the policy of visual *laissez faire* is out-of-date; here and there attempts are being made to fight suburban blight and downtown decay and to create city centers that really are centers and not just street corners; more and more schools of architecture and planning are studying seriously the problems of townscape and civic environment.

All this is true enough, but meanwhile the mess goes on growing, and not enough people seem to care. Now why is this? Obviously, there are many reasons—not least among them the pressure of the postwar building boom and the terrifying demand of the automobile, a modern monster as insatiable as any medieval dragon, that daily gobbles up for its needs more and more land and leaves everywhere behind it a trail of squalor and litter of every size and description.

But there are other reasons more fundamental even than these—among them the resistance of a highly competitive society to any sort of planning or control; the faith that economics determines our environment is too sacred to be questioned; the belief that land is a source of speculation and that whatever promises wealth is therefore good, that advertising and exploitation and industrialization are barometers of prosperity and therefore of human happiness; and finally, and perhaps most powerful of all, the old pioneering attitude that there is always plenty of room over the hill and if you do make a mess, well, move on and leave it to somebody else to clear up, because America is smart enough and rich enough to lick any problem when it gets around to it.

But we Europeans cannot help feeling that what makes the ugliness of, say, Los Angeles or Indianapolis or Detroit so alarming is not so much its hopeless, hapless endlessness, or even the apathy of the citizens who endure it, but the suspicion that here—like it or lump it—is, for *all* of us, the city of the future.

### MR. WRIGHT'S AGRONOMY

*In October Frank Lloyd Wright addressed the Chicago Dynamic Forum. To an audience prepared to applaud the wonder of Chicago's steel-clad industrialism, his words had a strange ring.*

We have no business and never had any business to copy England and become a great industrialism. I don't know how the North wiping out the agronomy of the South came to that conclusion. We once had a gift from Nature that made an industrialization unnecessary, if not calamitous. We should be the greatest agronomy in the whole world today. With our advantages, the curse should have been taken off of living in the country. The farmer should be an aristocrat. But the natural order was changed. God knows you have evidence enough of the change that has taken place—how long it takes to get from here to there; how the going to and fro is wasting the energy of the American people; how we are up against a confusion and distortion that we are not reckoning with.

Now, to me, the unraveling of all this is an architect's job, his province. And I think if we had architects today interested in architecture instead of architects interested in architects, we'd get further ahead with this problem than we are now.

I don't believe it is a question for the insurance man or the realtor or for any city planner that I know about. It is fundamentally ethical.

*continued on page 152*

Dramatic New Building Material
FOR BUSINESS·INDUSTRY·FARM

**IPCOR FIBER GLASS REINFORCED PLASTIC BUILDING PANELS**

**Translucent, Custom-Colors.** Any color – to your order – can be built into IPCOR Panels at no extra cost – when ordering 2,000 sq. ft. or more. Top quality, light-stable resin gives IPCOR translucent colors unexcelled lasting qualities.

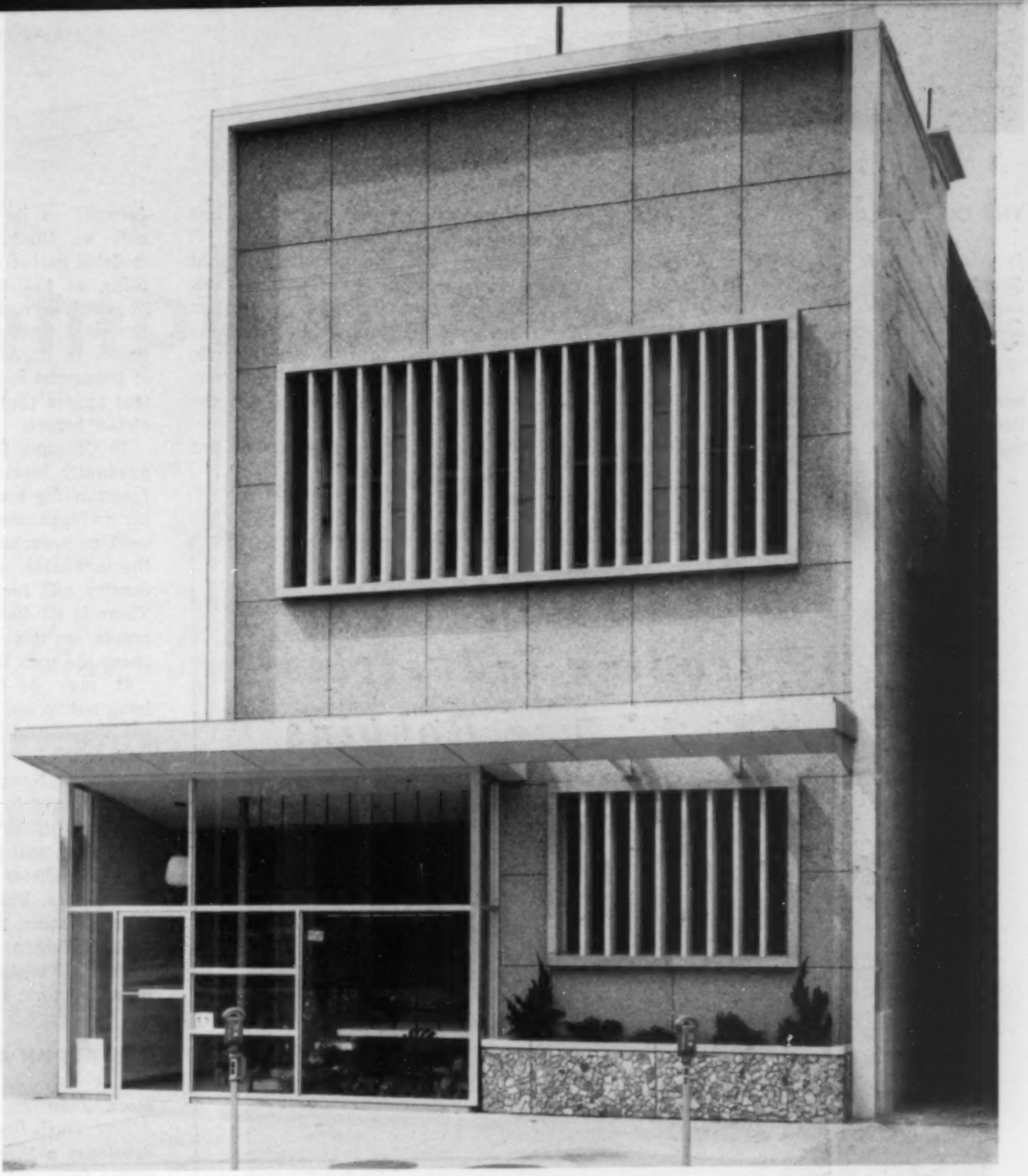
**Rugged, Weatherproof.** Tough, fiber glass reinforced IPCOR Panels can't chip, shatter, warp or rot. Easily embed in wet concrete or damp earth without harm. Ideal for exterior walls, beautiful interior partitions, maintenance-free sky-lights, illuminated "hanging" ceilings.

**Diffused, Natural Lighting.** Light through IPCOR Panels – "wakes up" production, adds attractive airiness to plant interiors.

**Easy Installation, Low Cost.** Light weight IPCOR Panels are easy to install. Can be cut right on the job with hand or power tools . . . fastened into place with nails, screws or bolts. In addition, IPCOR Panels save on framing cost, millwork, glazing or painting.

*WRITE TODAY* for the name of the distributor nearest to you, and for quotations on special orders.

**THE INTERNATIONAL PLASTICS CORPORATION**
**Dept. AF-2 · Branford, Conn.**



**AFTER**

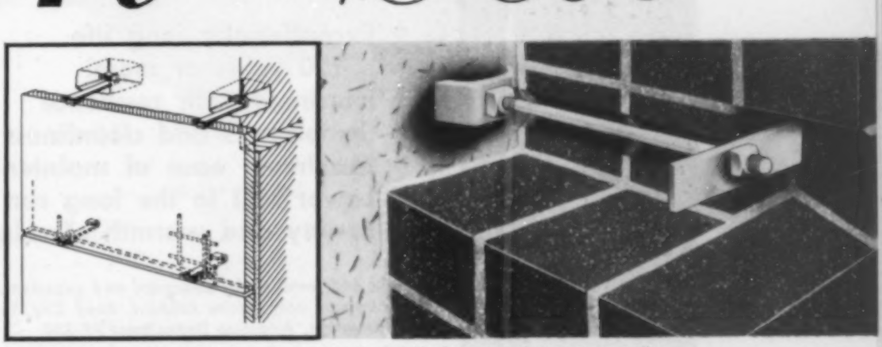
**BEFORE**

(Left): This old sandstone office building was given a smart ultra-modern look with contrasting textures in the Mo-Sai facing, planter and louvers.

## *Face-lifting "Main Street" with* Mo-Sai

Owners of soundly constructed but outdated-appearing stores and office buildings are finding they can bring in more business — and do it economically — with an architect-designed Mo-Sai "face-lifting."

Mo-Sai can be cast to match or contrast with existing materials . . . it can be made in special decorative shapes to match the main facing . . even raised and inlaid lettering and insignia can be cast in Mo-Sai for a variety of strikingly beautiful effects. Textures and tones can be infinitely varied to suit any taste. Mo-Sai can be used to add special touches of decorative beauty — or for a complete refacing. Truly the Mo-Sai look is the newest look on the remodeled stores and offices of "Main Street, U. S. A." . . . just as it is on the smartest new suburban stores and shopping centers, banks and office buildings.



Detail above shows two typical methods of anchoring Mo-Sai to existing masonry walls. Other methods can be used for Mo-Sai on preconstructed concrete, steel-frame, etc.

Mo-Sai
PRECAST FACING

### MO-SAI ASSOCIATES, INC.,

MEMBERS, THE PRODUCERS' COUNCIL

- BADGER CONCRETE CO., *Oshkosh, Wis.*
- CAMBRIDGE CEMENT STONE CO., *Allston 34. Mass.*
- ECONOMY CAST STONE CO., *Richmond 7, Va.*
- GEORGE RACKLE & SONS CO., *Cleveland 5, Ohio—Houston 20, Texas*
- GOODSTONE MFG. CO. INC., *Rochester 21, N. Y.*
- HARTER MARBLECRETE STONE CO., *Oklahoma City, Okla.*
- OLYMPIAN STONE CO., INC., *Seattle 7, Wash.*
- OTTO BUEHNER & CO., *Salt Lake City 6, Utah*
- P. GRASSI-AMERICAN TERRAZZO CO., *South San Francisco, Calif*
- SOUTHERN CAST STONE CO., INC., *Knoxville, Tenn.*
- THE DEXTONE CO., *New Haven 3, Conn.*
- THE MABIE - BELL CO., *Greensboro, N. C.*
- TORONTO CAST STONE CO., LTD., *Toronto 13, Canada*
- WAILES PRECAST CONCRETE CORP., *Los Angeles, Calif.*

### THE CITY SPEAKS

*In his new book,* The Astonished Muse, *Reuel Denney devotes a chapter to the way U.S. cities look and sound. Here are some of his conclusions.*

We used to think that the single-mindedness of the American temper expressed itself well enough in the classically varied repetitions that make up the sky line. Each corporate personality built one tower, and one alone, to add to the sky line.

We hardly think so any more, now that we are less sure what the city as a whole advertises and now that the corporation moves some of its production functions from the industrial town to the suburb, while at the same time it moves its overhead functions, to some degree, from the city to the suburb.

What the city of the future will put forward as its massed visual message is not, we think, something that will be modeled exclusively on the present. Everything at the moment indicates that the physical surroundings of the city emphasize the escape from it more than the access to it. And very soon the pressure of industrial events will open up new, central spaces that could not have been predicted before.

In Chicago, for example, the process is gradually leaving the Loop as a sort of freestanding hive in the center of a circular twilight zone. New uses of this zone tend to accentuate less intensive uses of the available area, both for population density and for building footage on sites. There is no doubt that open space will increase in this area, but there is doubt about the uses that can be made of it.

It may be too optimistic to expect imaginative use of the emptied space near the city center. Possibly we shall see space that could have been monumental refilled piecemeal. Nevertheless, intelligent critics will continue to ask how urban life is related to urban appearance. Visitors to New York will continue to scorn the massive sordidness of its new East River apartments. Visitors to Chicago will continue to scorn the one-block façade along Lake Michigan, belied by what stands behind it. Frontality remains the poorest urban rhetoric in the world.

### WHAT IS AN ARCHITECT?

*Dean John E. Burchard and Professor Albert Bush-Brown, both of MIT, have developed a theory that fear of architects comes from not knowing them. Their collaborative study appeared in Harper's magazine.*

Why do Americans exhibit such a strange reluctance to consult architects? There is, first of all, general uncertainty as to what an architect is. Is he a professional man like a doctor or lawyer, with codes of ethics and performance, whose primary function is to serve the interests of the client and only the client? Is he a businessman intent upon gaining new jobs and protecting economic interests, his own as well as the client's? Is he an artist primarily dedicated to making something beautiful?

At the same time there is a subtle uneasiness that the architect may tend to make things monumental and permanent for an America that wants innovation and change. You will often find him, for example, on a committee formed to save a building that stands in the way of a superhighway, like H. H. Richardson's Allegheny County Courthouse and Jail.

Yet this reservation is seldom as powerful as three beliefs which are held more generally: that architects are expensive; that they may not be technically competent; and that they are no better qualified than any other democratic man to decide matters of taste. END

*leading industries* use Robbins maple floors*

*
American Bridge Co.
American Can Co.
American Tobacco Co.
Chrysler Corp.
Eastman Kodak Co.
Ford Motor Co.
General Motors Corp.
Hart, Schaffner & Marx
International Business Machine Corp.
International Harvester Co.
Liggett & Myers Tobacco Co.
P. Lorillard Co.
The Maytag Co.
National Biscuit Co.
Philip Morris Tobacco Co.
Radio Corporation of America
Remington-Rand
Socony Mobile Oil Co., Inc.
Standard Oil Co.
Stromberg-Carlson Corp.
Studebaker-Packard Corp.
United States Tobacco Co.
Westinghouse

Architects: Waasdorp and Northrup, Rochester, New York
Ritter Company, Rochester, New York

**HERE'S WHY** ***these leaders in their fields choose Robbins Ironbound, Continuous Strip, Northern Hard Maple Floors:***

- **Exceptionally long life (50 years or more)**
- **Hardness with resilience**
- **Smoothness and cleanliness**
- **Maximum ease of maintenance**
- **Lower cost in the long run**
- **Beauty and warmth of color**

*Sold and installed by approved and experienced flooring contractors only. Write Robbins, Reed City, for complete information. Attention Department AF-258*

MILLIONS WALK DAILY ON ROBBINS FLOORING

**ROBBINS FLOORING COMPANY**
WORLD'S LARGEST MAPLE FLOORING MANUFACTURER
Reed City, Michigan Ishpeming, Michigan
T.M. Reg. U.S. Pat. Off. See our Catalog in Sweet's File

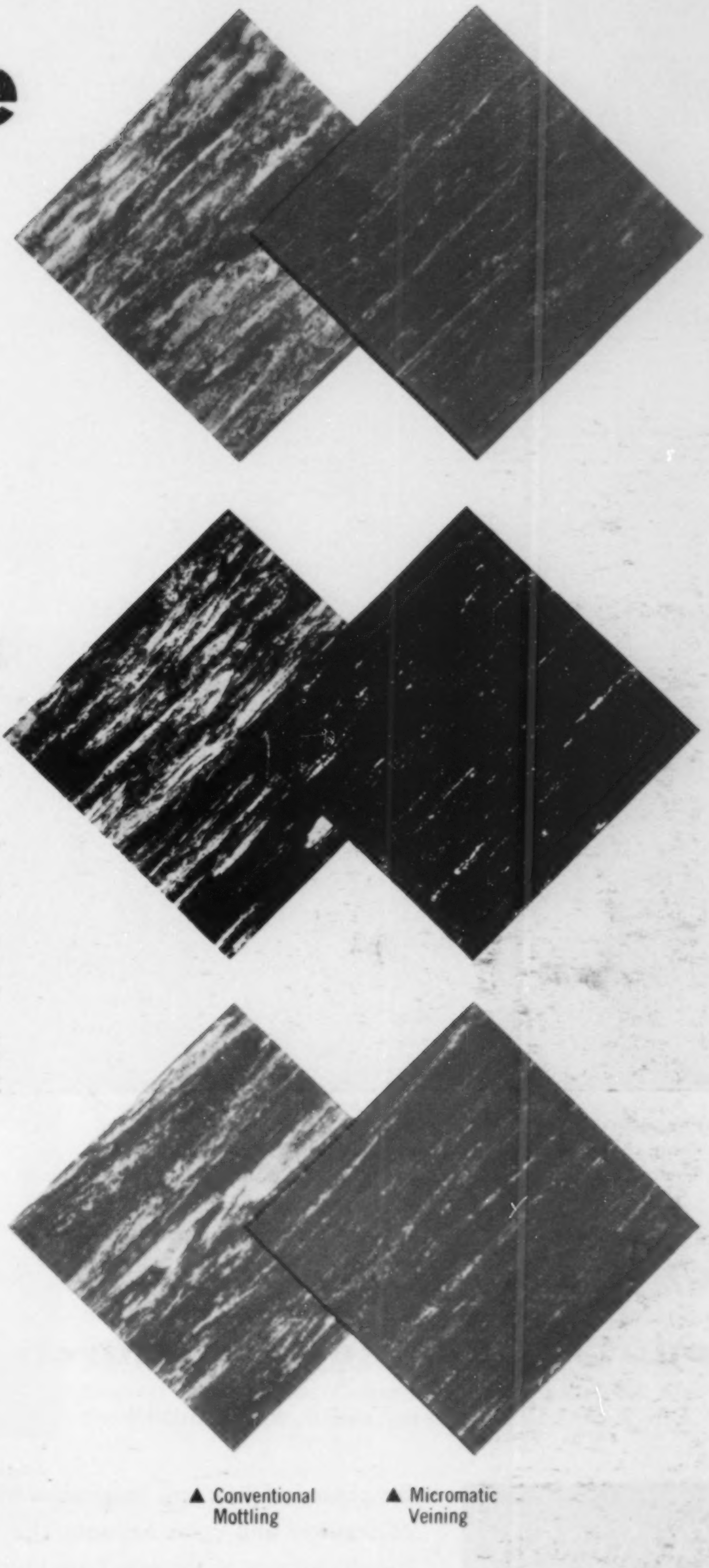
# Compare

*Micromatic Veining*

in *Vina-Lux®*

with

CONVENTIONAL MOTTLING



▲ Conventional Mottling ▲ Micromatic Veining

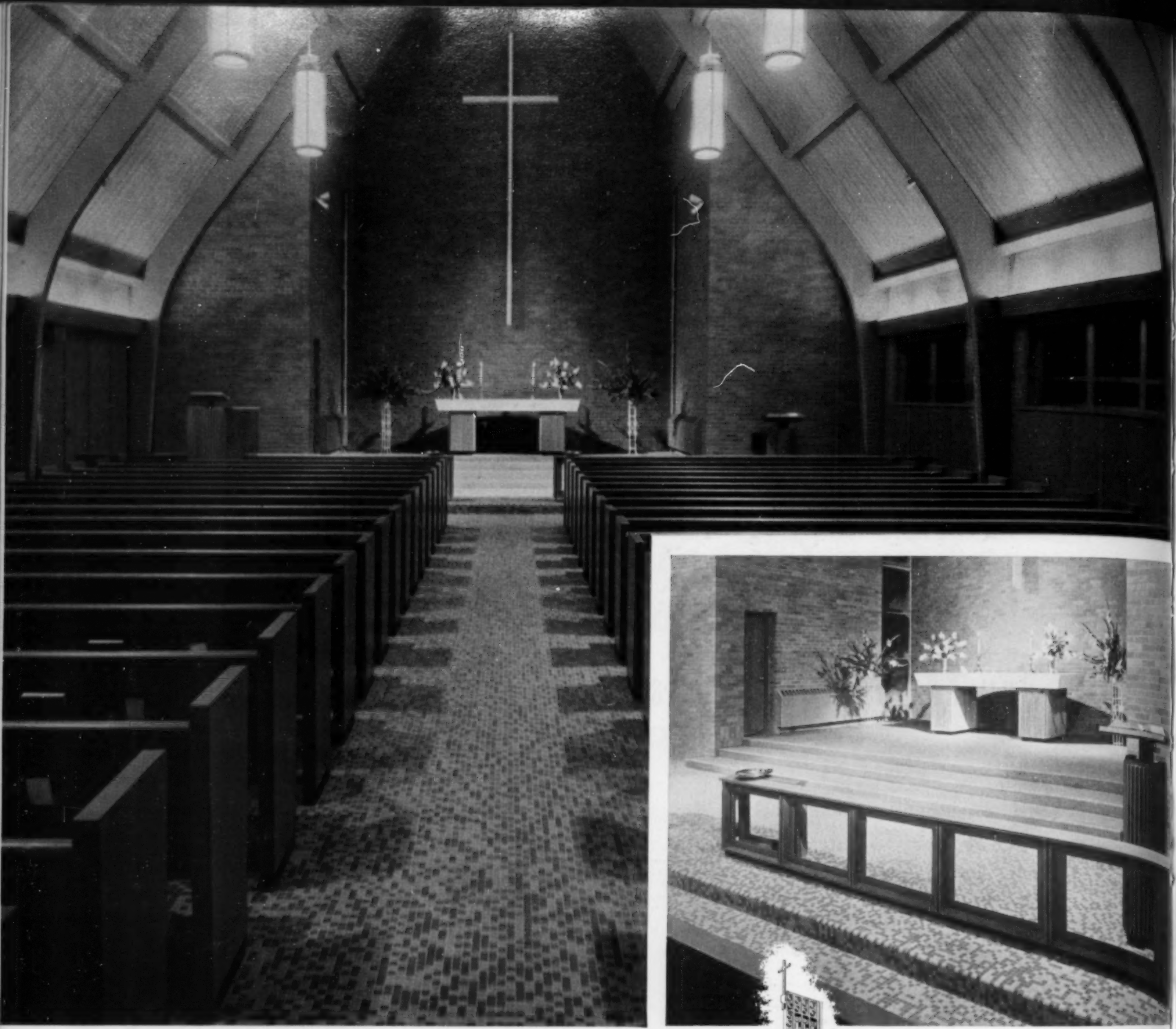
Here is visual evidence why Vina-Lux with *Micromatic veining* is preferred! Note the delicate, artistic striation of color in Vina-Lux – compare it with the irregular blotchiness of conventional mottling! Vina-Lux not only looks better – but it helps you achieve important floor design objectives.

Vina-Lux is a versatile tile that solves many floor problems. It's greaseproof and durable – slip-safe and easy to maintain. Solve *your* floor problems with this outstanding vinyl asbestos tile. Available in 31 colors and 4 styles. Samples are yours without obligation.

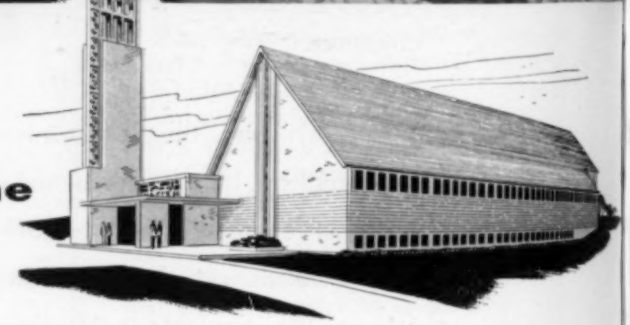
**AZROCK FLOOR PRODUCTS DIVISION**

UVALDE ROCK ASPHALT CO. | 501A FROST BANK BLDG. • SAN ANTONIO, TEXAS

MAKERS OF VINA-LUX • AZROCK • AZPHLEX • DURACO



**First Methodist Church, Hopkins, Minn.**
Architects: Armstrong & Schlichting, Minneapolis, Minn.
Tile Contractor: Drake Marble Co., Minneapolis, Minn.



# Romany·Spartan tile lends serene beauty to Minnesota church

ROMANY
SPARTAN

**Member:**
**Tile Council of America**
**The Producers' Council, Inc.**

Simplicity of line and imaginative blending of textures and color keynote the warm, friendly interior of the new First Methodist Church in Hopkins, Minnesota. To help achieve this dignified, yet colorful effect, the architects chose Romany•Spartan small unit tile in subdued colors—plain for chancel floor and random pattern for sanctuary.

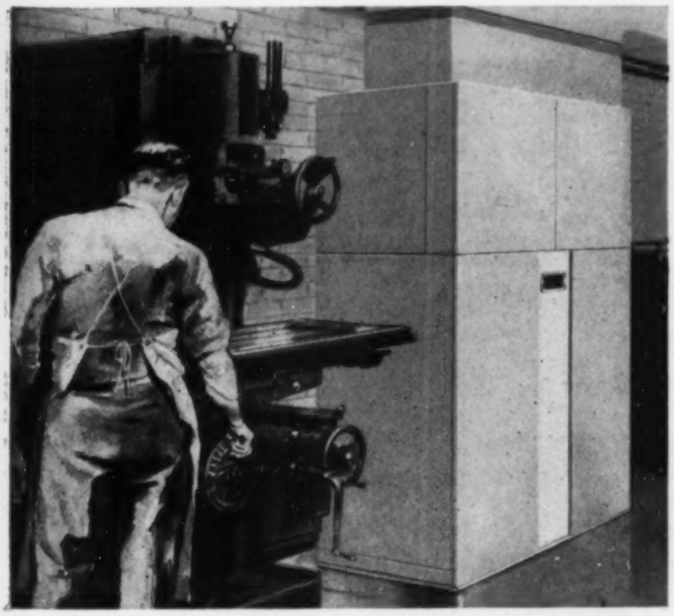
No matter what your problem, indoors or out, there's a Romany•Spartan tile to create exactly the right mood or effect. Be sure you're familiar with the complete line. If you'd like design help or more information, contact your nearby Romany•Spartan representative or write United States Ceramic Tile Company, Department A-16, Canton 2, Ohio.

UNITED STATES CERAMIC TILE COMPANY • THE SPARTA CERAMIC COMPANY

# GENERAL ELECTRIC TAKES A

# GIANT STEP

*Simplifies Air Conditioning for Big Projects ... with New G-E Factory-Assembled Central Station Units ... Water-Cooled and Air-Cooled*



New General Electric 30-Ton Unit. Note smooth lines—no outside fan motors, filters, controls or other protruding parts. This unit is up to 2000 lbs. lighter than competitive 30-ton units. Features two G-E hermetic compressors.

**Installation after installation has proved convincingly that large projects can be air conditioned *more efficiently,* at *less cost* with General Electric Factory-Assembled Central Station Units—*now available in 20, 25 and 30-ton capacities.***

**Efficiency and low cost are only the beginning. Planning is greatly simplified—minimum need for fittings and piping—no elaborate equipment rooms—more free floor space. Air-cooled units (up to full 20 tons) eliminate cooling towers, water lines. Hermetic compressors minimize service problems. Installation in existing buildings requires no major alteration to premises, no serious interruption to business—and you get all the advantages of real Zone-by-Zone air conditioning.**

**Why not prove to yourself that it makes more sense to use General Electric Factory-Assembled Central Station Units for the big jobs. For complete data and specifications on all General Electric Commercial and Industrial Air Conditioners, write to: Mr. E. R. Pierce, General Electric Co., Commercial and Industrial Air Conditioning Dept., 5 Lawrence St., Bloomfield, N. J.**

*Progress Is Our Most Important Product*

**GENERAL ELECTRIC**

In Canada: Canadian General Electric Co., Ltd., Montreal

**HARLAND BARTHOLOMEW** *continued from page 91*

mew, each partner will usually have under his wing six or more jobs which may be spotted anywhere within the U.S. or Canada, and may involve a city or county plan, renewal study, a scheme for a shopping center or subdivision development. Every contract is assigned to one of the partners for over-all supervision.

On comprehensive city plans, which generally take three years from start to finish, the partner will pick one of the firm's planners as job captain or field representative to move into the city and set up an office there. The field representative, far from being a mere agent, pulls together the background data—population trends, traffic counts, land-use statistics, economic characteristics, etc.—analyzes the material and drafts the proposals from which the partner will write the final report. (One man, of course, does not do all this; on big contracts there is an assistant job captain; further, much of the actual data assembling is done by the staff of the city plan commission and other city departments and by locally recruited survey teams.)

In the main, the policy is to do as much of the planning as possible at the local level. Thus the partner in charge is likely to be a frequent commuter for as long as the planning process goes on. The chief engineer will come out, too, to work on proposals for streets and public works, and so will the firm's chief designer, Claire Avis, if design problems are involved for schools or civic centers. (Most architectural work, however, is on private development contracts rather than on city plans.) Writing of the final report, which usually appears in sections over the three years, drafting of maps and charts, and printing are handled in the St. Louis headquarters.

While the price of a Bartholomew plan will vary with the size of the community and the amount of work, a city of 100,000 people can expect today to pay about $75,000 for a comprehensive plan. The firm's exact fee will be figured in one of two ways: 1) on the basis of a direct cost estimate—man-hours, travel, living expenses, printing, and materials—plus overhead (about 30 per cent of total costs) and an undisclosed percentage for profit; or 2) on a cost-plus basis of two, or two and one-half, times direct salary costs, plus living, travel, and material expenses. (Cost-plus is usually used on those city jobs where precise estimates are difficult; it is also applied to most private contracts.)

For most of the postwar period, the firm's gross has been running between $500,000 and $700,000 a year, with about one-half of this coming from city plans and the rest from military and private work. In 1956 and 1957, though, a heavy amount of classified military planning in the Pacific boosted the total take to $1.4 million and then to $2.2 million. The expectation is that 1958 will hit about $1.5 million, with new highway work making up for some drop-off in military volume.

Exactly how much of this gross income is carried to profit is not known, of course. But, considering that

*continued on page 160*

ALUMILINE
CONSTRUCTION
DETAILS
ALUMILINE — ENTRANCES AIA FILE No. 16-E
THE ALUMILINE CORPORATION

ALUMILINE *Offers*

*All Architects—New*
*Entrance Details & Catalogs of*
*Architectural Aluminum Products*

CONSTRUCTION DETAILS
☐ STORE FRONTS
☐ ENTRANCES

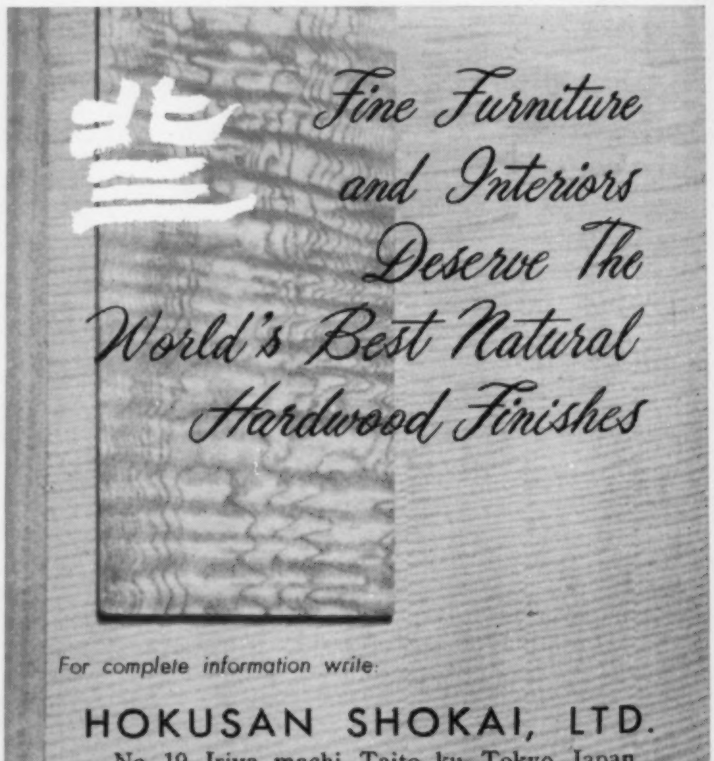
1958 CATALOGS
☐ STORE FRONTS
☐ ENTRANCES

☐ PLEASE HAVE YOUR REPRESENTATIVE CALL

Write for your free copies today

THE ALUMILINE CORP.
PAWTUCKET, RHODE ISLAND

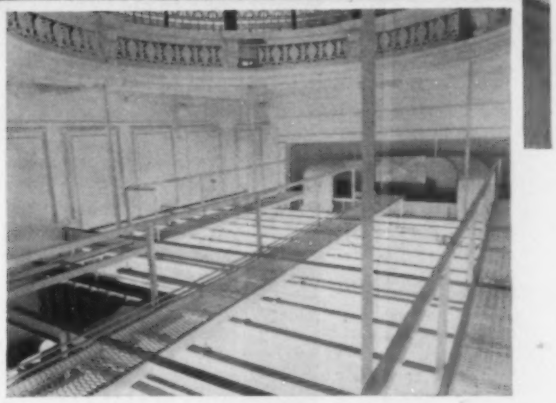
CATALOG
DIVISION
Dept. F


*Fine Furniture and Interiors Deserve The World's Best Natural Hardwood Finishes*

For complete information write:

HOKUSAN SHOKAI, LTD.
No. 19, Iriya-machi, Taito-ku, Tokyo, Japan
Cable Address: "HOKUTSUKI TOKYO"

Manufacturers of Brand TSUKI-ITA Veneered Plywood and other quality veneers.



## Remodelling? Give the Lighting a Fresh Look with a Luminous Ceiling by

## LITECONTROL!

Here's another "team job" where architect, electrical engineer, electrical contractor (and the customer) obtained excellent results with standard Litecontrol equipment, at sensible cost!

The architect had to come up with a solution to the deep, high ceilinged area and he did. He modernized this old-fashioned interior adroitly — made a handsome, well illuminated banking area by running I-beams across the dome, and suspending Litecontrol's integral Luminous Ceiling from the beams. (note small photo.) Lamps may be easily serviced from the catwalks.

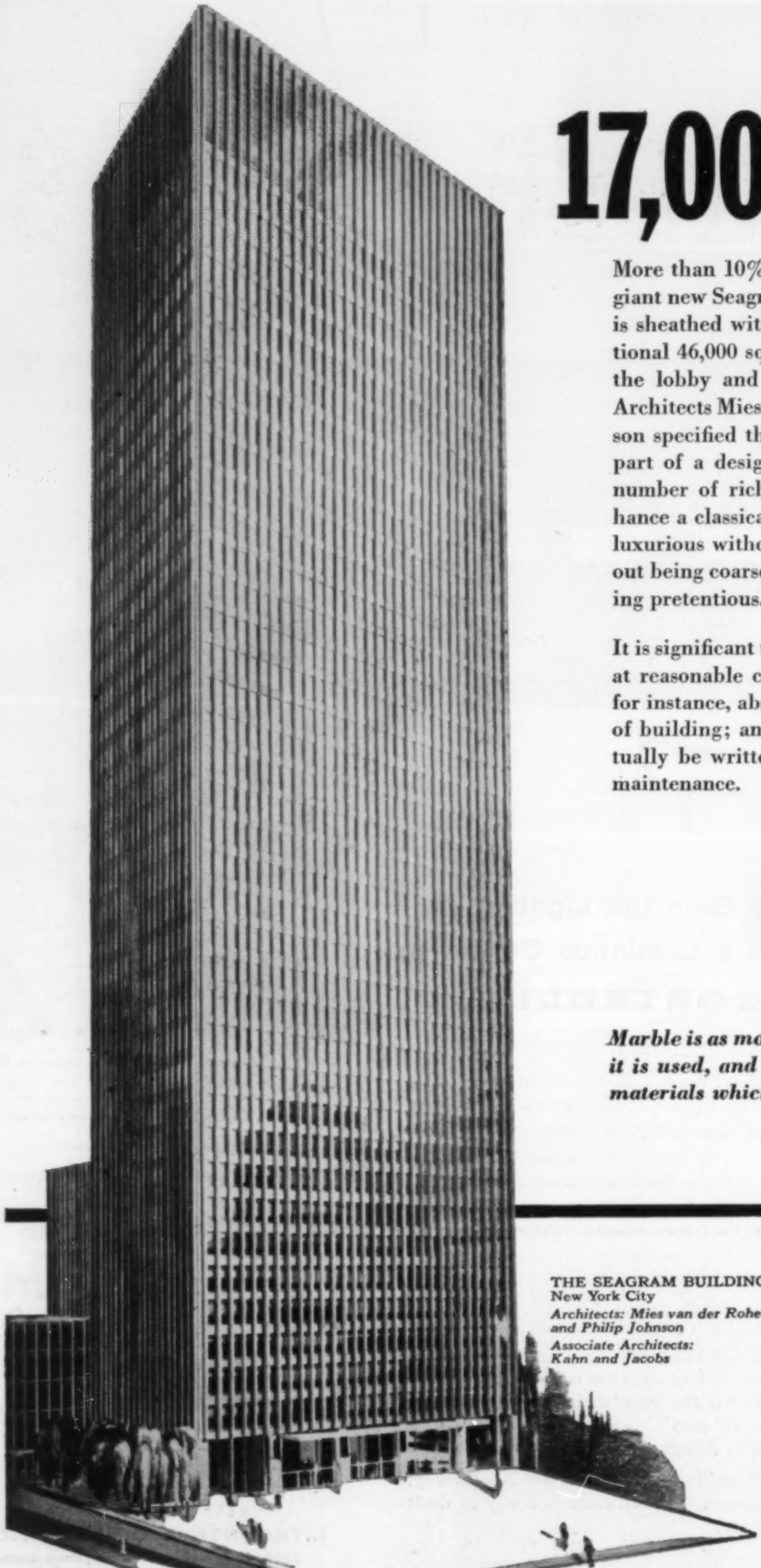
The diffusing medium (upper photo) is plastic grid louvers. Beauty of this material is that it is easy to work with (it was cut "tailor-made" around the curve of the soffit) . . . it is lightweight . . . translucent . . . and has the functional low brightness look with high light transmission onto the work surfaces. The shielding angles are noteworthy — 45° x 45°.
RESULT: A lighting job of overall distinction.

Whether you are starting "from scratch" or are remodelling, have a "problem" installation (or not), there is a way to do it better with LITECONTROL.

**INSTALLATION:** Portsmouth Trust Co., Portsmouth, N. H.
**AREA SHOWN:** Main Banking area
**ARCHITECT:** W. H. Jones & Son, Melrose, Mass.
**ELECTRICAL ENGINEER:** Martin E. Keane Associates, Boston, Mass.
**ELECTRICAL CONTRACTOR:** Walter Reddin, Portsmouth, N. H.
**DISTRIBUTOR:** Mass. Gas & Electric Supply Company, Portsmouth, N. H.
**FIXTURE:** Litecontrol Luminous Ceiling, using molded plastic grid louvers. Slimline single-lamp strip fixtures on 24" centers.
**INTENSITIES:** Top of tellers' counters, average 72 foot-candles in service.
Work area on tellers' counters, average 63 foot-candles in service. Overall average throughout room, 52 foot-candles in service.

**LITECONTROL**
*Fixtures*
KEEP UPKEEP DOWN
LITECONTROL CORPORATION,
36 Pleasant Street, Watertown 72, Massachusetts

DESIGNERS, ENGINEERS AND MANUFACTURERS OF FLUORESCENT LIGHTING EQUIPMENT DISTRIBUTED ONLY THROUGH ACCREDITED WHOLESALERS



# 17,000 SQ. FT.

More than 10% of the exterior surface of the giant new Seagram Building in New York City is sheathed with marble panels, and an additional 46,000 square feet of marble is used in the lobby and throughout the upper floors. Architects Mies van der Rohe and Philip Johnson specified this great quantity of marble as part of a design plan which utilizes a small number of rich, compatible materials to enhance a classical simplicity. The total effect is luxurious without being gaudy, modern without being coarse, and monumental without being pretentious.

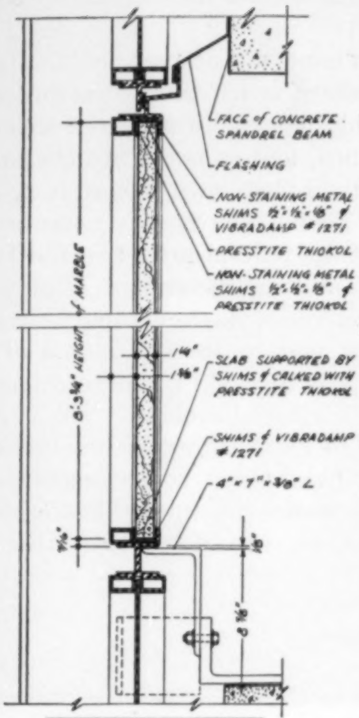
It is significant that these effects were achieved at reasonable cost. The vast areas of marble, for instance, absorbed less than 3% of the cost of building; and this small amount will eventually be written off through savings on low maintenance.

MIA

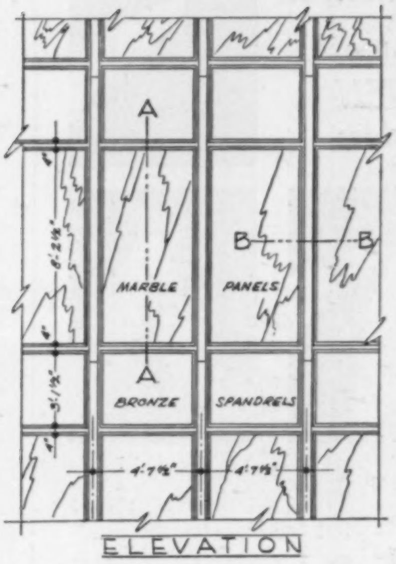
***Marble is as modern as the building in which it is used, and more economical than most materials which might be used in its place.***

**THE SEAGRAM BUILDING,**
New York City
*Architects: Mies van der Rohe and Philip Johnson*
*Associate Architects: Kahn and Jacobs*

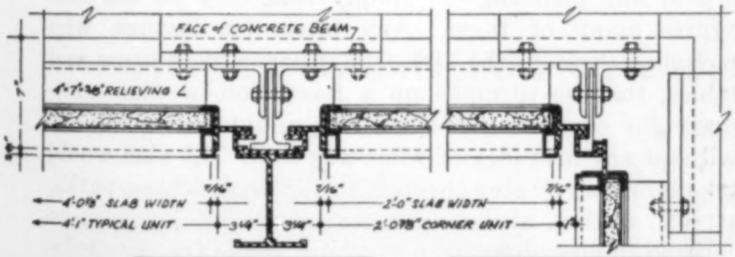
# T. OF MARBLE PANELS


FACE of CONCRETE SPANDREL BEAM
FLASHING
NON-STAINING METAL SHIMS ½"×½"×⅛" & VIBRADAMP #1271
PRESSTITE THIOKOL
NON-STAINING METAL SHIMS ½"×½"×⅛" & PRESSTITE THIOKOL
SLAB SUPPORTED BY SHIMS & CALKED WITH PRESSTITE THIOKOL
SHIMS & VIBRADAMP #1271
4"×7"×⅜" ∠
8'-3¾" HEIGHT of MARBLE
1¼"
1⅜"
7/16"
⅛"
8⅝"

SECTION A-A


A
A
B
B
MARBLE
PANELS
BRONZE
SPANDRELS
8'-2½"
3'-1½"
4'-7½"
4'-7½"

ELEVATION


FACE of CONCRETE BEAM
4"×7"×⅜" RELIEVING ∠
7"
3½"
7/16"
7/16"
7/16"
4'-0⅞" SLAB WIDTH
4'-1" TYPICAL UNIT
3¼"
3¼"
2'-0" SLAB WIDTH
2'-0⅞" CORNER UNIT

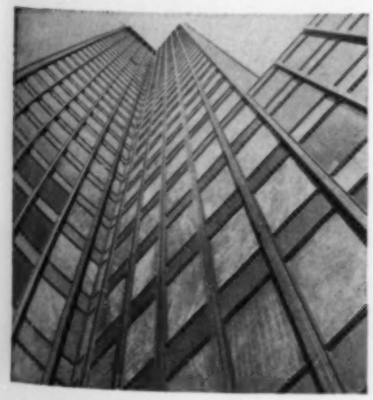
PLAN B-B

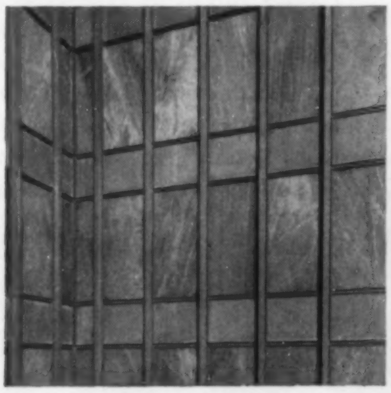
CORNER DETAIL

*The Marble Institute of America has developed a wealth of information on marble which is available on request by writing:*

**MARBLE INSTITUTE OF AMERICA, INC.**

32 SOUTH FIFTH AVE. • MOUNT VERNON, NEW YORK

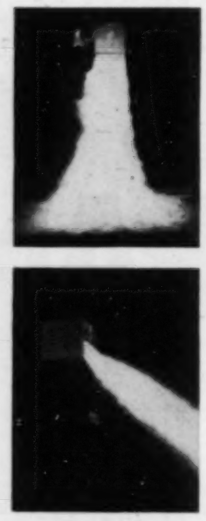


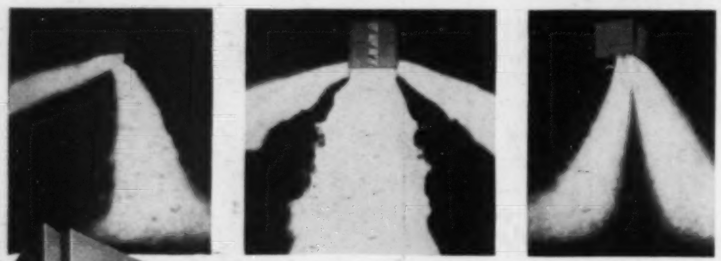


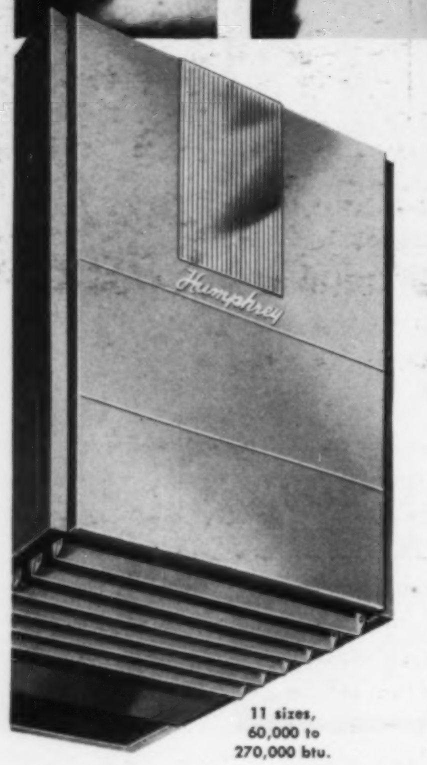
NEW *Humphrey* Multi-Directional

AUTOMATIC GAS UNIT HEATER

*FIRST to deliver Warm Air STRAIGHT DOWN and from front and sides*







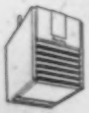
These smoke test photos tell the story of the greatest advance ever made in gas unit heaters. Here is the first unit heater to deliver warm air *straight down,* and from front and sides — the first with interchangeable and optional louvers that can be installed on the job, to provide the most effective warm air circulation for each individual installation! Equipped with top-mounted fan, unique "open-top" heat exchanger, and completely enclosed controls. May be ducted to use 100% outside air for combustion, or installed in batteries of several units using same piping, wiring and vent.

**New 8-Page Brochure FREE!**

**Find out how this new Multi-Directional heater improves warm air circulation and cuts heating costs on all commercial and industrial installations. Write today for colorful free brochure.**

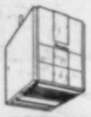
**GENERAL GAS LIGHT COMPANY**
Kalamazoo, Michigan

MOST ADAPTABLE UNIT HEATER EVER DESIGNED

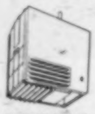


FRONT DISCHARGE

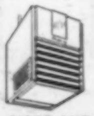
FRONT AND BOTTOM DISCHARGE



BOTTOM DISCHARGE



SIDES AND BOTTOM DISCHARGE



SIDES AND FRONT DISCHARGE

Bartholomew & Associates is a cost-conscious operation, the net probably has been at least as good as that for most successful architectural practices, somewhere, say, between 20 and 25 per cent of gross income. Whatever the precise amount, about 20 per cent of profit has gone into year-end bonuses and into percentage payments to the firm's 12 associate employees. The rest has belonged to the partners (all of whom, incidentally, draw small fixed salaries).

Typically, the firm is not out actively looking for work even today. While there is a feeling that private city planning has probably passed its peak—so many cities now have been planned, and so many are continuing to set up planning staffs of their own—there is no aggressive move into new fields. The firm is expecting more highway work under the federal program, and Pollard's elevation to partner status reflects this. But it is not thinking yet of specific goals, even though it believes highway engineering will be its main area of future growth. In general, its attitude at the moment seems best conveyed by Eldridge Lovelace: "All of us find what we are doing so extraordinarily interesting that none of us have thought about something we are not doing. All of us are so heavily involved in each job as it comes along that we are not looking for a new challenge."

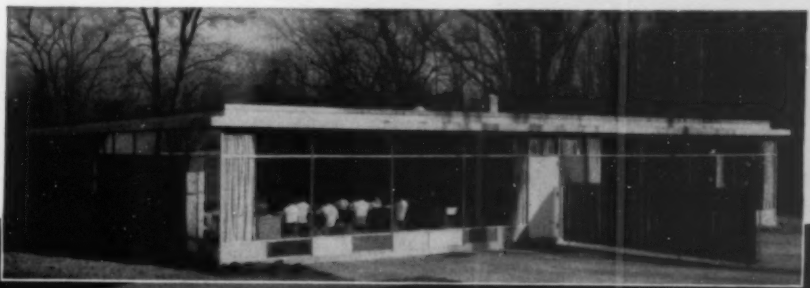
### Challenge of the future

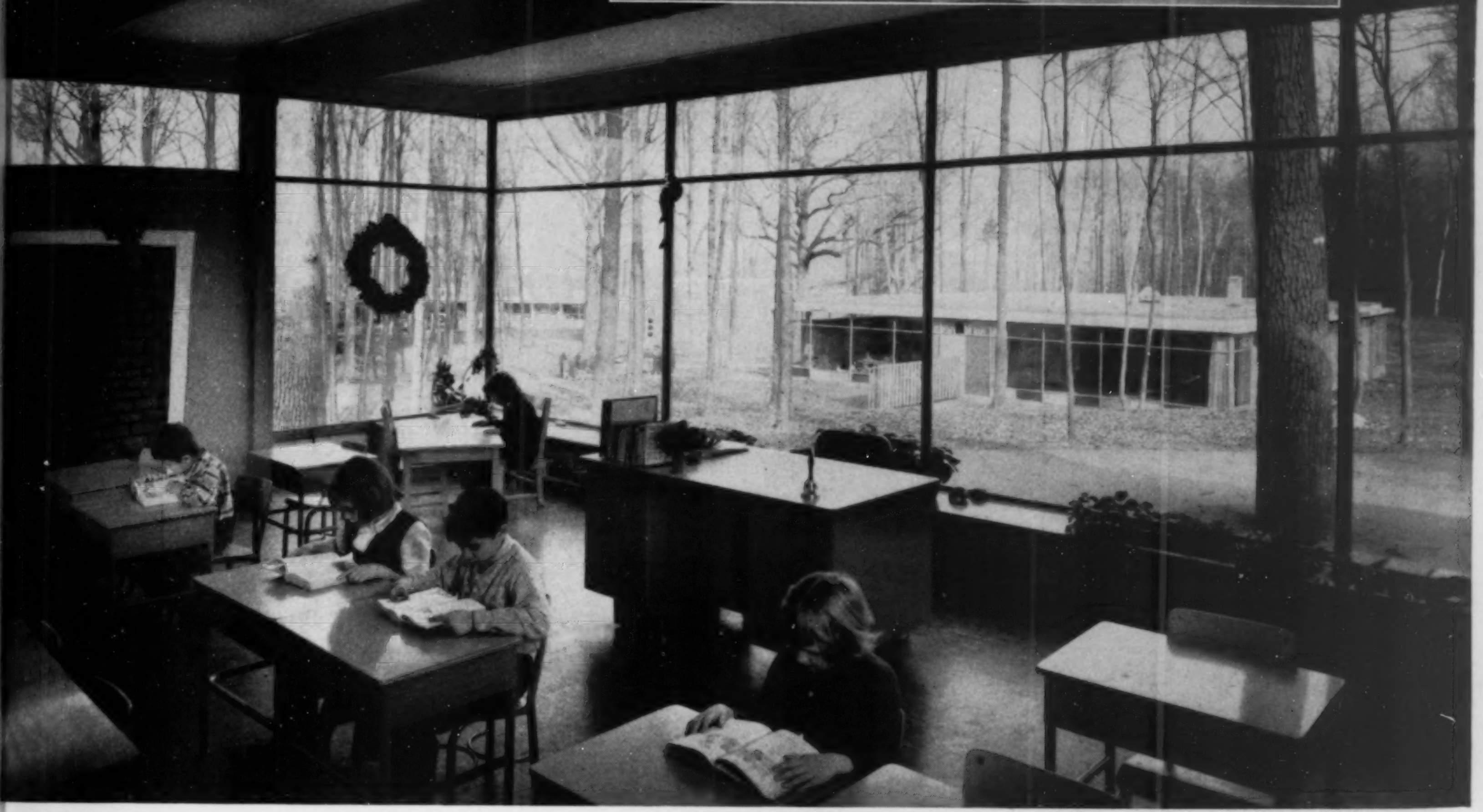
Yet the challenges in U.S. cities are everywhere. And the final, telling criticism of the Bartholomew type of city plans—basic as many of their engineering features are to any planning—is simply that they do not recognize many of them. Any interested layman who ploughed through the 100 or 200 pages, plus maps and tables, that go to make up a Bartholomew plan summary for even a small-sized city might well come out without any firm idea of what was said. The plan would take him step by step through the various areas—parks, streets, zoning, etc.—which state laws say have to be covered in city plans. But nowhere would the details be added up, the parts become humanly related to the whole. And nowhere could the hopeful citizen find the truly bold proposal or the exciting vision of what the city might be if it really tried.

To take a specific plan, Bartholomew & Associates in 1955 completed a comprehensive study for Cloquet, Minn., a small city (population: 10,000), but one of the country's most important centers for wood products processing. In all, the summary of the plan runs to 100 pages, not including maps, and of these about one-third are given over to a recital of the city's history, a routine description of its economy and population, and some projections of growth. The plan itself starts on page 28 and almost immediately launches into a listing of highly specific proposals: changes in the zoning ordinance and street plan ("the minimum required to correct inadequacies"); recommendations for parking (mainly shifts in meter timing and arrangement and the creation of

*continued on page 164*

This school was a top award winner in the Fifth Annual Competition for better school design sponsored by the School Executive magazine

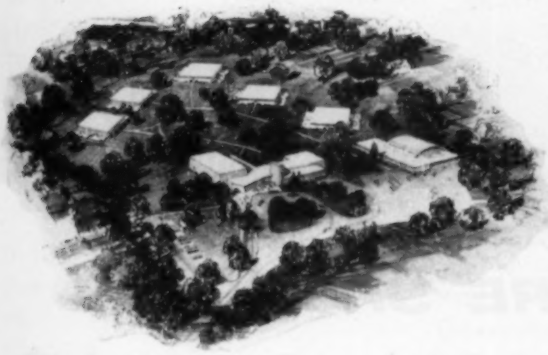




WILBERT SNOW ELEMENTARY SCHOOL, MIDDLETOWN, CONN.

*Architect: Warren H. Ashley* *Contractor: Wadhams & May Company*

## HOPE'S WINDOWS were chosen for this award winning school



● An unusual feature of Wilbert Snow School is that administrative offices, cafeteria facilities, a large gymnasium and the classroom units (see insert above) are all housed in separate buildings as shown in the small aerial view at left.

The adaptability of Hope's Windows to any type of building design is well illustrated by their application to the various buildings of this school. For example, in the classroom units a full window wall elevation, plus an upper ribbon of windows encircling the entire unit, provides abundant controlled daylight with healthful comfort for young eyes in each classroom. Note that a door for each classroom has been included as a safety factor and traffic convenience in the window wall elevation.

Write for our new Window Wall catalog No. 152 AF or call your local Hope's representative where additional information and planning assistance are always available without obligation.

*Since* **HOPE'S** *1818*

**HOPE'S WINDOWS, INC.,** ***Jamestown,*** **N. Y.**

STEEL WINDOWS HAVE THE STRENGTH AND RIGIDITY THAT NO OTHER WINDOW CAN MATCH

Elevator Doors Open Quickly to Unload Passengers

No Door-Flutter During Entire Unloading

Doors STAY Motionless While Car Is Loading

Traffic Sentinel Closes Doors Quickly After Last Passenger Enters

## *WESTINGHOUSE TRAFFIC SENTINEL® DOORS*

# *DON'T "SCARE" SHOPPERS*

**AT BLOCK AND KUHL CO.,** in Peoria, Illinois, Westinghouse Operatorless Elevators with Traffic Sentinel Doors offer the finest in passenger comfort. Ride them yourself and see.

Operatorless elevators in a department store? You can see and ride them at Block and Kuhl Co.—where Westinghouse Operatorless Elevators equipped with magic Traffic Sentinel Doors handle heavy traffic day in, day out. Traffic Sentinel Doors open quickly at your floor—and stay open wide until all passengers are safely in or out. No "scary" threats of premature door closing.

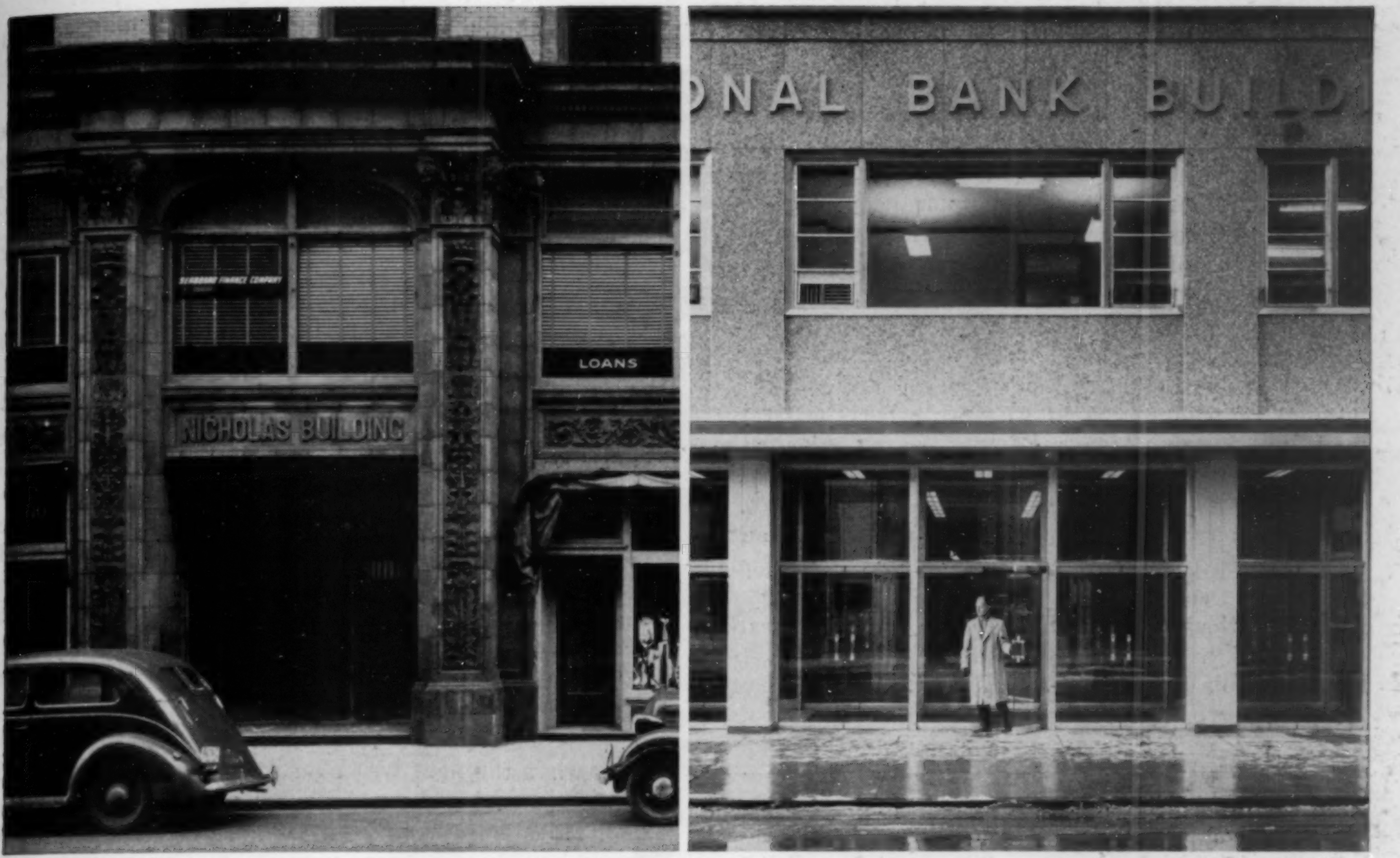
Westinghouse Operatorless Elevators with Traffic Sentinel Doors mean quick, safe, trouble-free vertical transportation of customers to upper sales floors. Ask your Westinghouse Elevator representative for the full details on the ultimate in this profit-building service.

**YOU CAN BE SURE...IF IT'S**

**Westinghouse**

J98754AA

*WESTINGHOUSE ELEVATORS AND ELECTRIC STAIRWAYS*



608 Madison Ave., Toledo, Ohio
Architects: Horn & Rhinehart, Cleveland

# All dressed up for a new lease on life

This 55-year-old downtown Toledo building has a new lease on life . . . and *Tuf-flex*® tempered plate glass doors have a good deal to do with it.

Their trim beauty makes all who pass through them feel: "This building is smart and up-to-date". With no frames to clutter vision, *Tuf-flex* Doors lend a crisp, modern air to the entire façade. Yet they are tough enough to take the heaviest traffic. They give the building a dressed up look that puts it on a par with the newest . . . makes it a building in which both owner and tenant can take pride.

*Tuf-flex* Doors can enhance foyers, lobbies and offices equally well.

Ask your L·O·F Glass Distributor or Dealer for full information. He's listed under "glass" in the Yellow Pages. Or write for descriptive folder to Libbey·Owens·Ford, 608 Madison Avenue, Toledo 3, Ohio.

LOF
GLASS

**TUF · FLEX DOORS**

LIBBEY · OWENS · FORD *a Great Name in Glass*
TOLEDO 3, OHIO

some off-street lots); public buildings, schools, parks, and the appearance of the city ("good appearance of the whole city is largely dependent upon the proper design and maintenance of streets"). The study concludes with a proposed capital spending program, which is about as close as it comes to any over-all summing up, and a plea for public understanding and support.

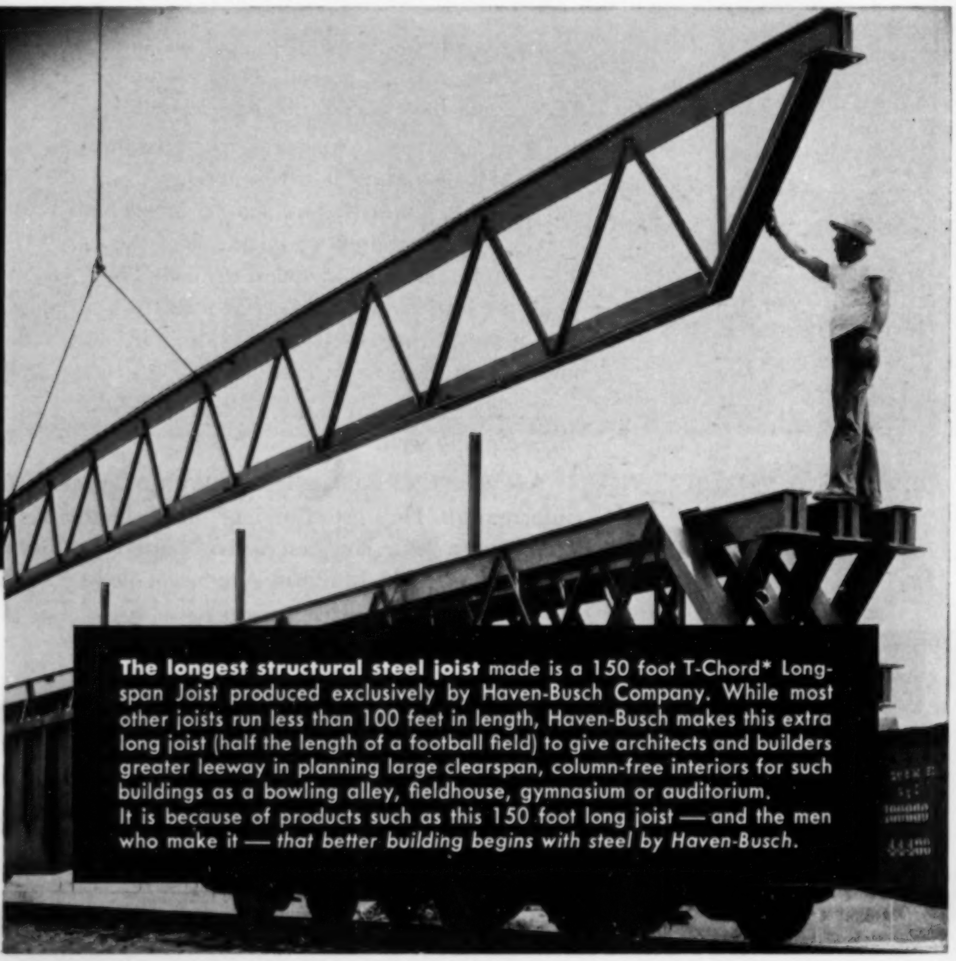
Even from a reading of many Bartholomew plans, it is impossible to identify them with any recognized philosophy of planning. ("If we have a doctrine, it is to have no doctrine," says Partner Harry Alexander.) This, however, is probably more of a strength than a weakness. The fact that Bartholomew plans are so thoroughly unopinionated, that they so largely avoid the more controversial social and esthetic aspects of planning, while seeming to fulfill all requirements, makes them particularly palatable to city administrators. "Practical" and carefully costed, they are not likely to cause trouble for anyone, and, indeed, they could not be better designed to discourage headlines.

"If you object to Bartholomew's approach," says Planning Critic Grady Clay, speaking of the recently finished Bartholomew plan for Louisville and Jefferson County, "you would describe it as one of 'preliminary compromise.' If you approve it, you might call it 'preliminary consent of all parties.' Either way, with the exception of the proposal for a combined park authority, the reports are merely a summary of what people in Louisville are willing to do at the moment, not what ought to be done or could be done beyond that."

But since the forties, a new era has been emerging in U.S. city planning. The outside expert report is no longer considered enough and, indeed, it is now seen to have serious drawbacks: its lack of community participation and its consequent failure to recognize fully the political and social influences that have to be taken into account to make an effective plan; its label as a foreign product imposed from outside; and its one-shot status and lack of continuity.

Beyond this, the very aims of planning have shifted. The City Efficient, with its concentration on the physical, is today far less important than the City Effective, the metropolis which must adjust to its human and economic problems in order to survive. Increasingly, the city is having to be thought of as an environment, and this approach seems almost essential if the country is to remedy its cultural and educational shortcomings in the years ahead.

Thus, for Bartholomew & Associates, the future is likely to be quite different from its past. In its youth, it made significant contributions to the cause of planning when the fight was plan versus no plan; it helped to pioneer and refine techniques; and it unquestionably kept cities from being in a far greater mess than they would have been with no plan at all. The question now is whether the firm can adjust to a new role. If it can't, there is always the highway business. END



HOW LONG IS A LONGSPAN JOIST?

**HAVEN-BUSCH Company**

DESIGNERS — FABRICATORS — ERECTORS

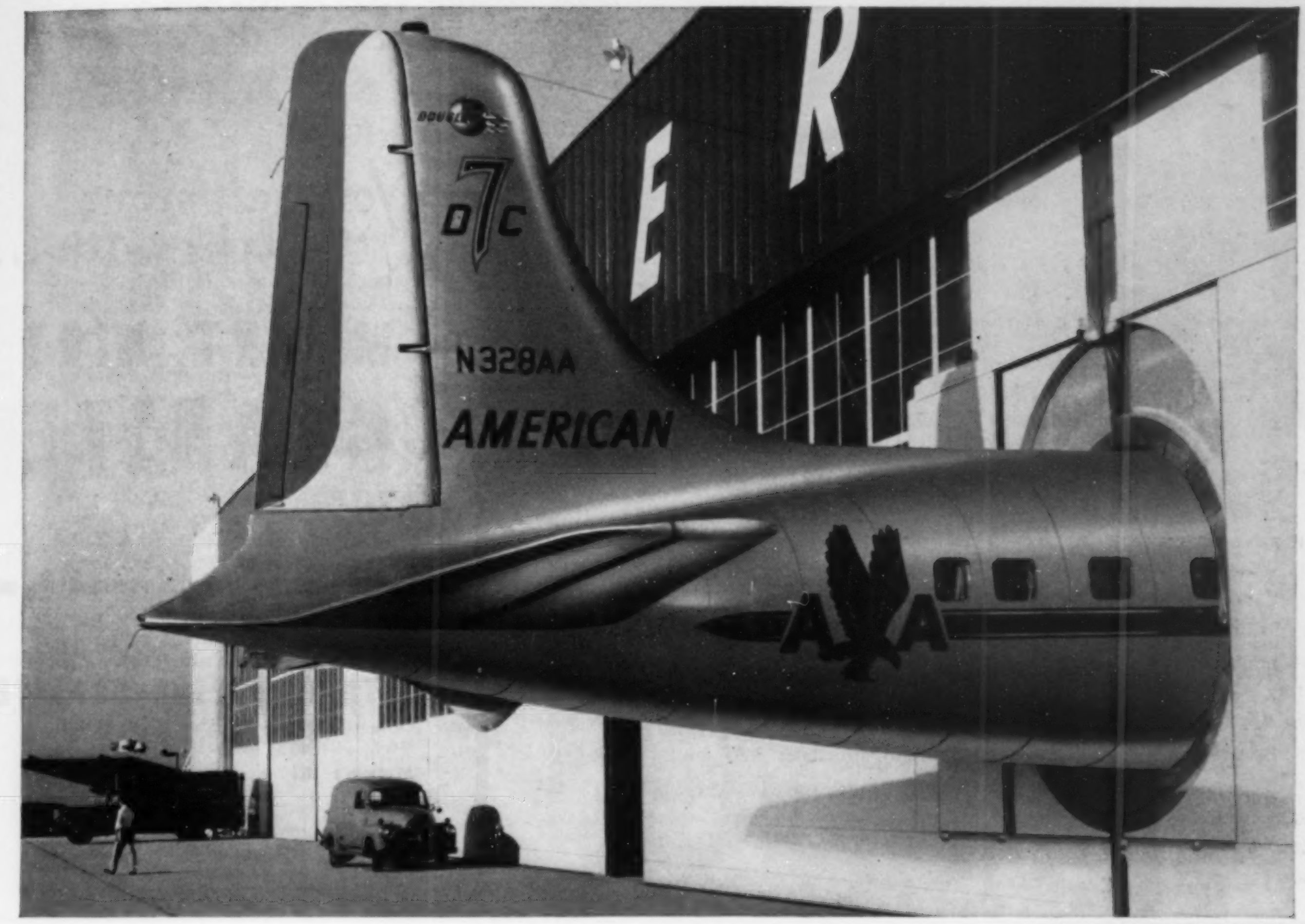
*SINCE 1888*

T-Chord* Longspan Joists Structural Steel
Miscellaneous Iron

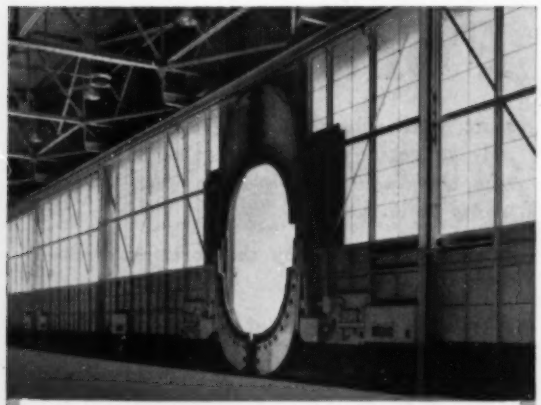
3453 CHICAGO DRIVE, S.W.—GRANDVILLE, MICH.
PHONE: LEnox 2-3641

*T.M. Reg.

**The longest structural steel joist** made is a 150 foot T-Chord* Longspan Joist produced exclusively by Haven-Busch Company. While most other joists run less than 100 feet in length, Haven-Busch makes this extra long joist (half the length of a football field) to give architects and builders greater leeway in planning large clearspan, column-free interiors for such buildings as a bowling alley, fieldhouse, gymnasium or auditorium.
It is because of products such as this 150 foot long joist — and the men who make it — *that better building begins with steel by Haven-Busch.*



## Airplane Hangar Construction Costs Cut 25% to 33% with the BYRNAPERTURE



The Byrnaperture consists of a series of movable segments, operated either by hand or electric power, which fit snugly around fuselages from the Convair to the DC-8, Boeing 707, and other large commercial jet planes of the future.

No longer is it necessary to design hangars which must be large enough to house the entire airplane. With the Byrnaperture, a completely weathertight closure is provided for the nose and wings of the plane permitting mechanics to work in complete comfort inside the hangar.

On the basis of hangar building costs—and particularly where large airplanes must be provided for—the Byrnaperture makes possible exceptional economies. This has been definitely proved in every case where Byrne has built doors incorporating this feature.

Here is the newest idea in aircraft hangar design—and it's exclusively Byrne! Let us send you full information and detailed reports of recent installations.

**BYRNE doors, inc.**
**1603 E. Nine Mile Road, Ferndale, Detroit 20, Michigan**
*101 Park Ave., New York 17, N.Y. • Cafritz Bldg., Washington, D.C.*
*Byrne Doors, Ltd., 381 College St., Toronto 2B, Ont.*

MEMBER OF THE HANGAR AND INDUSTRIAL DOOR TECHNICAL COUNCIL

SOUTHERN STATE PARKWAY BRIDGE
OVER BAY SHORE ROAD
Suffolk County, Long Island, New York

O. H. Ammann & Clarence C. Combs
Consulting Engineers

Hendrickson Brothers, Inc.
General Contractor

Engineers and architects like the permanent high quality . . . like the longlife beauty . . . like the more economical way in which we now can produce MOUNT AIRY GRANITE for the building of bridges, churches, schools, commercial structures and better residential homes. Check with us for complete information and see if you don't agree you get more to like with MOUNT AIRY GRANITE.

*You get more to like with...*

**MOUNT AIRY**
**GRANITE**

**NORTH CAROLINA GRANITE CORPORATION**
Mount Airy, North Carolina

**LATEST REVISED PLANNING DATA NOW AVAILABLE FOR YOUR FILES**

**STOOLS and TABLES for FOOD and DRINK INDUSTRY**
Shows many award-winning installations—new designs in tables and stools plus 20 porcelain enamel color samples. Includes tables with seats attached for schools, industry, etc.

**Sani-Dri AUTOMATIC HAND and HAIR DRYERS**
Newest machine designs and installation ideas for handling today's heavy traffic washrooms. Case histories show modern way to cut unnecessary washroom expense and improve sanitation.

**WRITE TODAY for These Latest Fact Files**

**THE CHICAGO HARDWARE FOUNDRY CO.**
**9280 Commonwealth Ave., NORTH CHICAGO, ILL.**

*Yes!* Send me the complete CHF Restaurant Stools and Tables Fact File . . . and Sani-Dri Washroom Planning Data.

NAME__________
FIRM__________
ADDRESS__________
CITY__________ STATE__________

If you don't have a personal subscription to

Architectural Forum

. . . start your subscription right now to the only magazine that fully reports today's *new thinking* on the planning and design of *big* buildings

. . . *prophetic* buildings by the foremost architects in practice

. . . *significant* buildings that set the pace with new engineering concepts, construction methods and materials

. . . *practical* buildings that give their owners a more profitable investment

. . . *outstanding* buildings of all kinds presented in detail to show you what the architect did on the project—and why.

To enter your subscription . . .

*send the subscription form bound in this issue*

Just sign it and drop it in the mail.
We'll enter your subscription immediately.

*CUSTOM DESIGNED LOOK—at budget prices!*

**MARMET Series 1100**

*Stock doors and entrances*

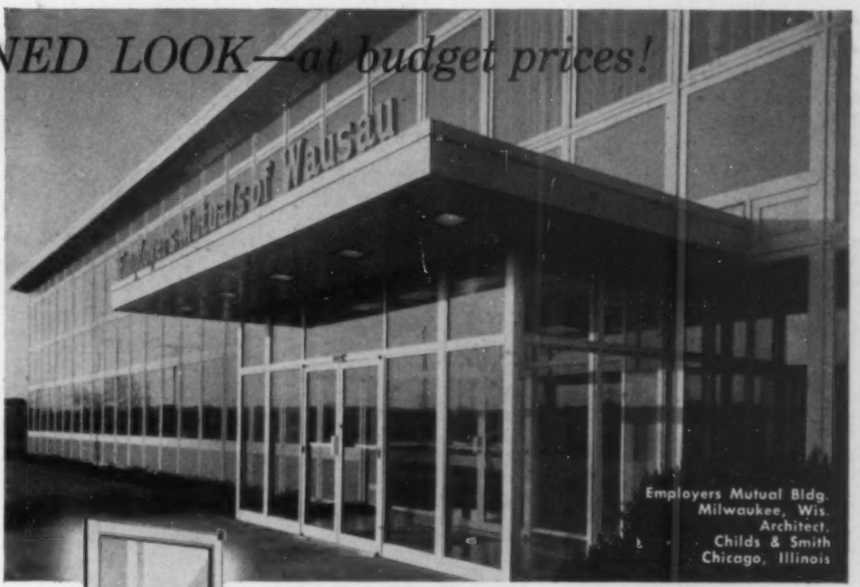
First impressions *are* important . . . but building entrances can be impressive without custom designing and fabrication. MARMET's *modular* entrance sections are made in a variety of sizes . . . fabricated from aluminum extrusions which match MARMET's beautiful "Narrowline" stock doors.

Designed to insure faster delivery at lower cost, MARMET entrances are engineered to meet all conditions. Shop drawings are eliminated . . . saving time and allowing the construction of the masonry opening to proceed. Clip anchors furnished with the frame sections. allow the aluminum to be adjusted to the masonry opening.

Both doors and entrances have a lustrous alumilite finish (etched in a special dip treatment) that "stays new" indefinitely . . . never requires painting.

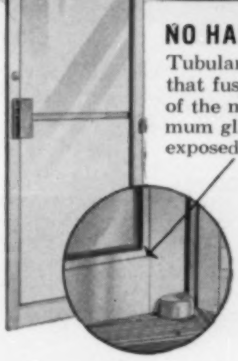
**For detailed information on the complete line of MARMET products — consult Sweet's Catalog File No. 3a Mar . . . or write to MARMET for Catalog 58-D.**

**MARMET Corporation**
302-Q Bellis St., Wausau, Wis.



Employers Mutual Bldg.
Milwaukee, Wis.
Architect,
Childs & Smith
Chicago, Illinois

**Marmet Series 600 Curtain wall construction*



**NO HALOS—only a hairline**

Tubular door sections plus a Thru-Weld process that fuses the members with complete penetration of the metal, provides great strength, maximum glass area . . . and leaves no halos, no exposed screws . . . only a neat hairline joint.

**Wool pile weatherstripping**

Plastic backed wool pile weatherstripping mounted on the door frames assures effective protection against the elements.

WOOL PILE WEATHERSTRIP

A8-9396½

**FOR BUILDINGS OF ALL TYPES**

**. . . first in efficiency, economy and client satisfaction**

★

**TODD BURNERS**

GAS OR OIL

★

**PRODUCTS DIVISION**
**TODD SHIPYARDS CORPORATION**

***Headquarters:***
**Columbia & Halleck Streets, Brooklyn 31, N. Y.**

***Plant:***
**Green's Bayou, Houston 15, Texas**

TODD NEW YORK, U.S.A.

**FLOOR PROTECTION-SAFETY WITH**
**Functional Beauty**

**WEAR PROOF**
RUBBER MATTING
**SHAD-O-RUG**

**REALLY DOES A CLEANING JOB!**

- **Heavy duty live rubber**
- **Standard 48 in. widths in black, red, tan or green**
- **Also available in grease, oil, chemical proof NIRU (grey or white)**
- **Extra durable — Economically priced**

**CROSS RIB RUNNER**

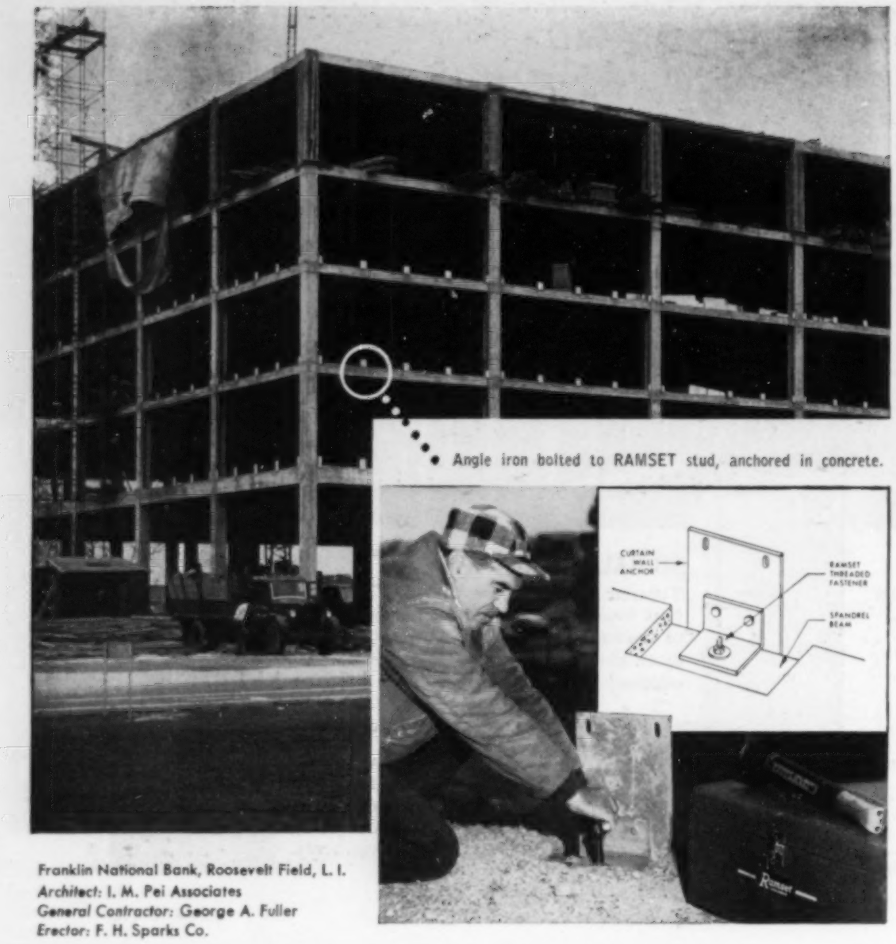
**Same exclusive "V" Rib. Easy to clean! 48" or 36" width, in black, red, green or tan — NIRU in grey or white.**

**WINDSHIELD WIPER ACTION**

1. Dirt is scraped off shoes by heavy duty "wipers."
2. Dirt falls into slots for easy cleaning.

***Write for information and name of your nearest distributor.***

**WEAR PROOF MAT CO.** 2156 W. FULTON CHICAGO 12, ILLINOIS (DEPT. A)



Angle iron bolted to RAMSET stud, anchored in concrete.

Franklin National Bank, Roosevelt Field, L. I.
*Architect:* I. M. Pei Associates
*General Contractor:* George A. Fuller
*Erector:* F. H. Sparks Co.

Curtain wall anchors go in 15 times faster with ***Ramset***®

After a thorough study of fastening methods, one of the nation's leading curtain wall erectors and the architect, settled on RAMSET because they knew it would be faster, more adaptable and economical.

Well, RAMSET powder-actuated fastening *was* faster . . . *15 times faster* than any other fastening method! Result was considerable savings in time and materials, and complete client satisfaction!

For full details about RAMSET and its applications to your problems, call your nearby RAMSET dealer, or write for free new catalog, ready now.

OLIN MATHIESON CHEMICAL CORPORATION Ramset
*Ramset Fastening System*
WINCHESTER-WESTERN DIVISION
OLIN MATHIESON CHEMICAL CORPORATION

12157-B BEREA ROAD
CLEVELAND 11, OHIO

**THE CITY**

*continued from page 78*

million per square mile. The cost of razing a square-mile slum and rebuilding it for residential purposes is in terms of $200 million to $300 million per square mile.

For the U.S. as a whole, $1,865 billion dollars—almost $2 trillion—must be expended by public and private enterprise during the period 1958-1970 to meet the needs for new construction, rehabilitation, conservation, and maintenance.

The total gross national product of the nation as a whole for the period to 1970 has been estimated at $7 trillion. More than 25 per cent of this amount will be required for total urban renewal expenditures, if minimum acceptable standards are to be met.

### Federation or anarchy

Obviously, new means must be sought not only to reduce urban renewal requirements but to redirect consumer interests. Judging by the present-day attitudes, the problems of city deterioration will not be met without reorientation of value standards, policies, and laws toward new choices and decisions. Improved technology can provide new instruments; without new philosophy, the instruments would not be used.

There must be recognition that our metropolitan areas are threatened by anarchy resulting from the paradox of governmental proliferation, yet being without governmental responsibility for problems common to all of the area. There is uneconomic duplication and overlapping in government, and in the provision of facilities and services. Some forms of centralized responsibilities for collection of data, identification of problems, planning, programing, financing, and execution must be established. Some reasonable form of mutual aid, confederation or association of governments is required.

Should there be further delay, the costs will be greater. Should there be early recognition of the common problem, adequate research, consumer re-education, comprehensive planning and programing, and pur-

*continued on page 172*

# MINOT AIR FORCE BASE GETS ROOF INSULATION VALUE THAT LASTS!

Natural Finish
Asphalt-coated

Gold Bond Insulation Roof Board was used at the new Minot Air Force Base, Minot, N. D. for pitched roofs on hangers and for flat administration and service building roofs. Here's why:

**1. Roof insulation value gets maximum protection** because Gold Bond's unique "Fiberlok" fabricating process makes the roof board highly resistant to compression from workmen's feet and wheelbarrows during construction. *And* it cuts to a minimum any "soak-in" of hot pitch or asphalt.

**2. Roofs cost less to build** because Gold Bond Roof Board is rigid, easy to handle; its smooth surface speeds mopping; its low absorption of pitch or asphalt holds down cost of these materials.

**3. Gold Bond Insulation Roof Board is moisture-resistant** because the fibers are treated with water-resistant rosin or asphalt. Available with treatment to protect from termites and dry rot; and with full asphalt coating for still more moisture-protection if needed. You can specify square, shiplap or offset edges . . . thicknesses to meet any specified *"C"* value.

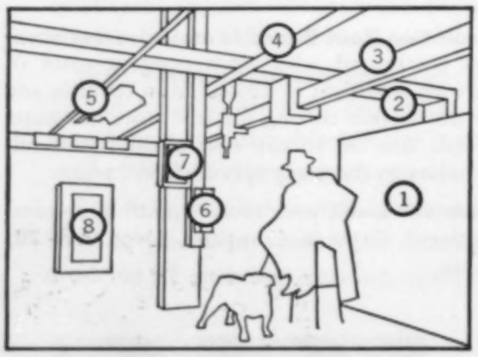
For further information, call your Gold Bond® representative or write National Gypsum Company, Dept. **AF-28,** Buffalo 2, New York.

***INSULATION ROOF BOARD***

**NATIONAL GYPSUM COMPANY**

**Gold Bond**
**BUILDING PRODUCTS**

**Electrical Planning**—*key to efficiency and economy, too!*



**PLANNED POWER** on display—it's yours in a system of coordinated BullDog components. 1. Unit Substation and Unit-Versal® Switchboards. 2. Lo-X® Feeder Duct. 3. Plug-in® Duct. 4. Industrial Trol-E-Duct®. 5. Universal Lighting Duct. 6. Pushmatic Electri-Centers®. 7. Clampmatic® Safety Switches. 8. Power Panels.

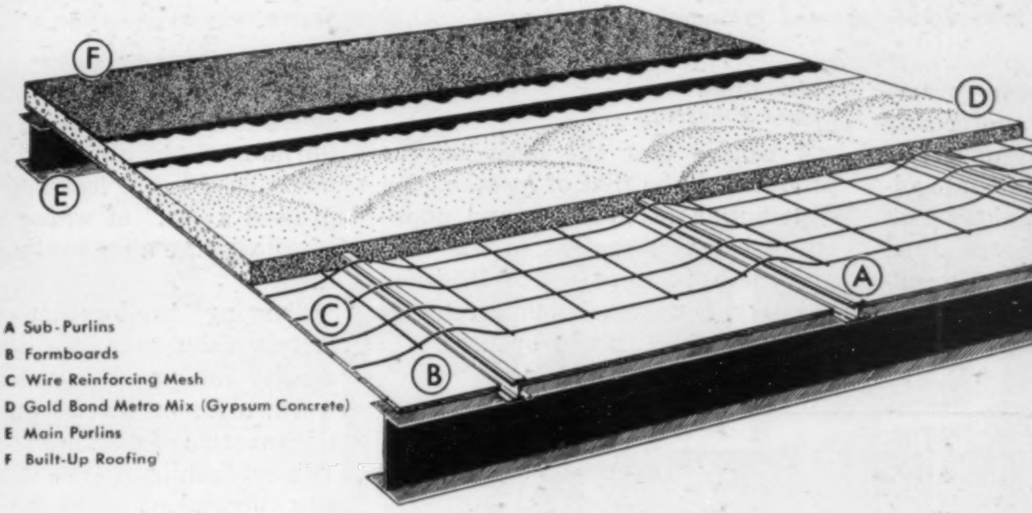
Score yourself on how well you're using electricity. Is control and distribution of power getting its deserved emphasis in your power blueprints? Do your clients enjoy the benefits of a distribution system tailored to the needs of their operations—whether commercial, institutional or industrial? Such a system of BullDog equipment can and *does* provide greater efficiency, profitable use of personnel, and easy, economical growth.

Contact your BullDog field engineer for complete details on the advantages of a BullDog distribution system. Make sure your customers are powered up to meet a challenging future.

© BEPCO

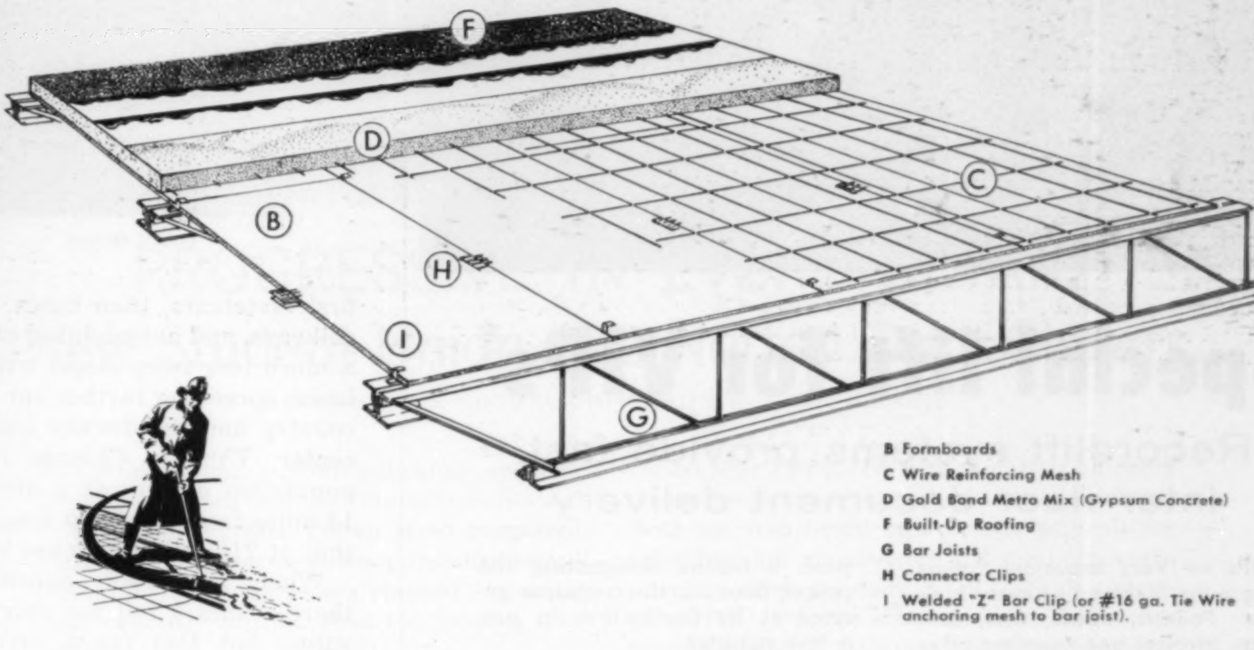
BULLDOG

BullDog Electric Products Co., Detroit 32, Mich. A Division of I-T-E Circuit Breaker Co.
*BullDog Export Division:* 13 East 40th St., New York 16, N.Y.
*In Canada:* BullDog Electric Products Co. (Canada) Ltd., 80 Clayson Rd., Toronto 15, Ont.



A Sub-Purlins
B Formboards
C Wire Reinforcing Mesh
D Gold Bond Metro Mix (Gypsum Concrete)
E Main Purlins
F Built-Up Roofing

# Design with or without sub-purlins with Gold Bond "Firefighter" Roof Decks



B Formboards
C Wire Reinforcing Mesh
D Gold Bond Metro Mix (Gypsum Concrete)
F Built-Up Roofing
G Bar Joists
H Connector Clips
I Welded "Z" Bar Clip (or #16 ga. Tie Wire anchoring mesh to bar joist).

Versatility is one reason why, in today's commercial and industrial construction, better than one roof deck in every four is poured gypsum. With Gold Bond "FIREFIGHTER" Roof Deck, for example...

**You can design with sub-purlins**—for longer clear spans between main purlins... to provide neat and attractive ceiling surfaces that are easy to decorate and maintain.

**You can design without sub-purlins**—for economical construction where suspended ceilings are planned or where the appearance of the under surface is not vital.

**Either way,** Gold Bond® "FIREFIGHTER" Roof Deck provides an incombustible, monolithic roof slab that goes on fast and lasts with rock-like ruggedness. For detailed specifications, consult Sweet's Catalogue 2g/Na—or write Dept. AF-28, National Gypsum Company, Buffalo 2, New York.

**Gold Bond**
BUILDING PRODUCTS

**NATIONAL GYPSUM COMPANY**

poseful cooperation between governments, the cost can be appreciably less. The alternatives are unacceptable: urban bankruptcy, state-administered receiverships, along with vastly increased federal spending. Beyond these are the final alternatives of social disorder, disintegration, and economic chaos.

**Colin Clark**
*Oxford University*

I believe that the most serious problem will be that of *location,* the distribution of industry and population between regions in the U.S. and the apportionment of land for industry, housing, shopping centers, and open space in metropolises.

In the location of industry there seems to be a real danger of disequilibrium, of "to him that hath shall more be given," leaving vast "depressed areas," of whose cause and of whose cure alike we know far too little.

Turning to location within a metropolitan area, we always find density falling off as we move outward, more or less as an exponential function of distance from center. The old-fashioned type of industrial city, dependent upon walking and horse transport, shows a "steep" density slope, i.e. high densities at the center falling off very rapidly as we proceed outward, with open country only a few miles away. But the new pattern of settlement, using first streetcars, then buses, electric railways, and automobiles, called for a much less steep slope, with population spreading farther out into the country and the density less at the center. Thus in Chicago in 1950, population density at a distance of 14 miles from the Loop was equal to that at 7½ miles' distance in 1910.

NORMAN MILLER

COLIN CLARK

When population density falls, there ensues a fall not only in land values but also (as a survey conducted by Columbia University for the Mayor of New York showed) in the real value of buildings. After allowing for changes in the purchasing power of money, land values were found to have been falling heavily since 1929; and new construction was not keeping pace with deterioration. Finally, with places of employment, recreations, and department stores moving to the suburbs too, the movement becomes cumulative, and the final distintegration of the city is at hand.

*continued on page 176*

**Special lift for VIPs***

Recordlift systems provide fast, inter-floor document delivery

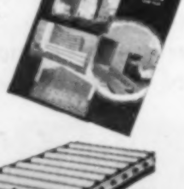
***VIPs** — Very Important Papers — are the lifeblood of every business. Policies, deeds, files, contracts, invoices and countless other papers must pass from person to person . . . office to office. And in multi-story buildings, there's no better way to assure rapid, safe, inter-floor handling of these papers than with Standard's Recordlift.

In a single day, a Recordlift conveying system can distribute tons of mail, business papers and office supplies floor-to-floor automatically. Its speed and convenience cut handling time . . . permit uninterrupted coordination of related departments, regardless of location. And the Recordlift is easy to operate. All you do is load a container and push a button designating the proper floor . . . the container arrives at its destination in just a few minutes.

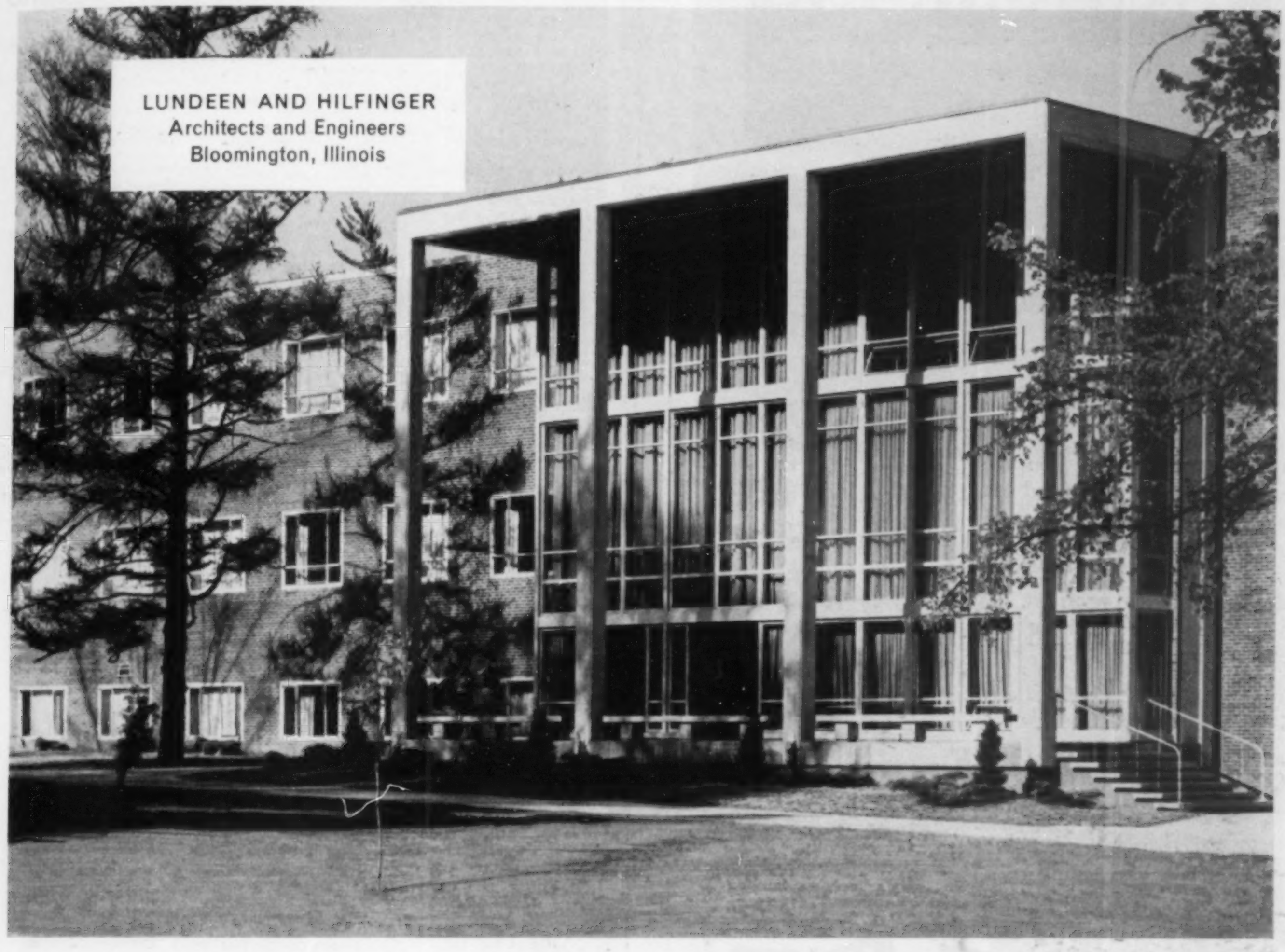
For full details, write STANDARD CONVEYOR COMPANY, General Office: North St. Paul 9, Minnesota. Sales and service in principal cities. Ask for Bulletin 150. Address Dept. BB-2.

50 years of conveyor experience

Standard
GRAVITY & POWER
CONVEYORS



A continuing series of distinguished public buildings, schools, churches, hospitals and industrial structures


LUNDEEN AND HILFINGER
Architects and Engineers
Bloomington, Illinois

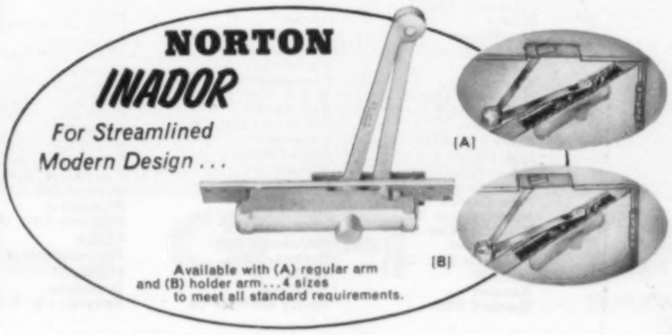
# PROGRESSIVE IN EVERY DETAIL

## New Student Union Has Norton Door Closers

ILLINOIS STATE NORMAL UNIVERSITY, NORMAL, ILLINOIS

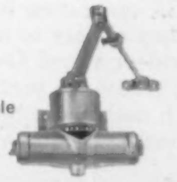
To be functional, modern education requires modern functional facilities. Illinois State Normal University at Normal, Illinois is no exception! Every detail of design—down to the streamlined Norton Door Closers—was planned for maximum efficiency and the utmost in modern simplicity.

Both Norton INADOR® and surface-mounted closers were extensively used, the latter on doors where concealment was not considered essential. Both are true liquid type closers with all the reliability, low maintenance and precision workmanship which the name NORTON always implies. For complete data on these and other Norton models, consult the current catalog. Write for it today if you don't already have one.



Available with (A) regular arm and (B) holder arm . . . 4 sizes to meet all standard requirements.

A complete line of Norton Surface-type Closers is available for installations where concealment is not essential.



**NORTON**
**DOOR CLOSERS**
**Dept. AF-28 • Berrien Springs, Michigan**

NEW EDITION!

*Completely revised to conform to the recently amended A. C. I. BUILDING CODE*

REINFORCED CONCRETE DESIGNS—ALL WORKED OUT!

CRSI
DESIGN HANDBOOK
Revised 1957
Concrete Reinforcing Steel Institute

No more algebraic formulas or calculations to make. Simply locate the table covering the member you are designing, apply span and load requirements, and then *read off directly* concrete dimensions and reinforcing steel data. Follows the latest codes and practices. Send check or money order for your copy, today.

*Prepared by The Committee on Engineering Practice*

OVER 450 pages

$6.00 POSTPAID

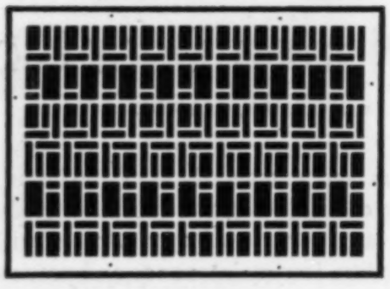
10-Day, Money-Back Guarantee
NO C.O.D. ORDERS

**CONCRETE REINFORCING STEEL INSTITUTE**
38 S. Dearborn St., (Div. B) Chicago 3, Illinois

---

SIMPLE AS a b c!

**a**RCHITECTS *specify*
**b**UILDERS *approve*
**C**ONTRACTORS *buy*



*... Hendrick grilles*

Architects, Builders and Contractors all agree you can't beat Hendrick Architectural Grilles for overall attractiveness and functionalism! Hendrick Perforated Metal Grilles not only provide plenty of open area for the free passage of air, but they're easy to install—always lie flat, and can't bend or warp! Over a hundred designs are available, many are exclusive only with Hendrick. Each design can be furnished in a wide range of dimensions, number and size of perforations.

**HENDRICK**
**MANUFACTURING COMPANY**
50 DUNDAFF STREET • CARBONDALE, PA.

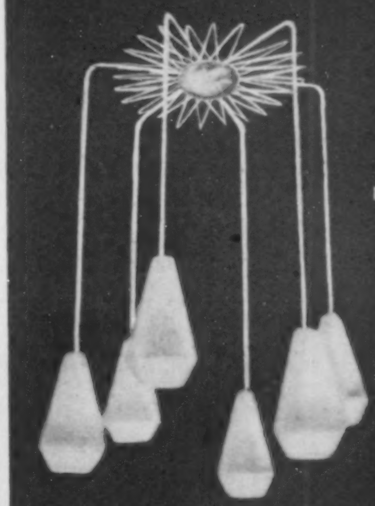
Perforated Metal • Perforated Metal Screens • Wedge-Slot Screens • Hendrick Wedge Wire Screens • Architectural Grilles • Mitco Open Steel Flooring—Shur-Site Treads • Armorgrids • Hydro Dehazers • Petrochemical Column Internals

---

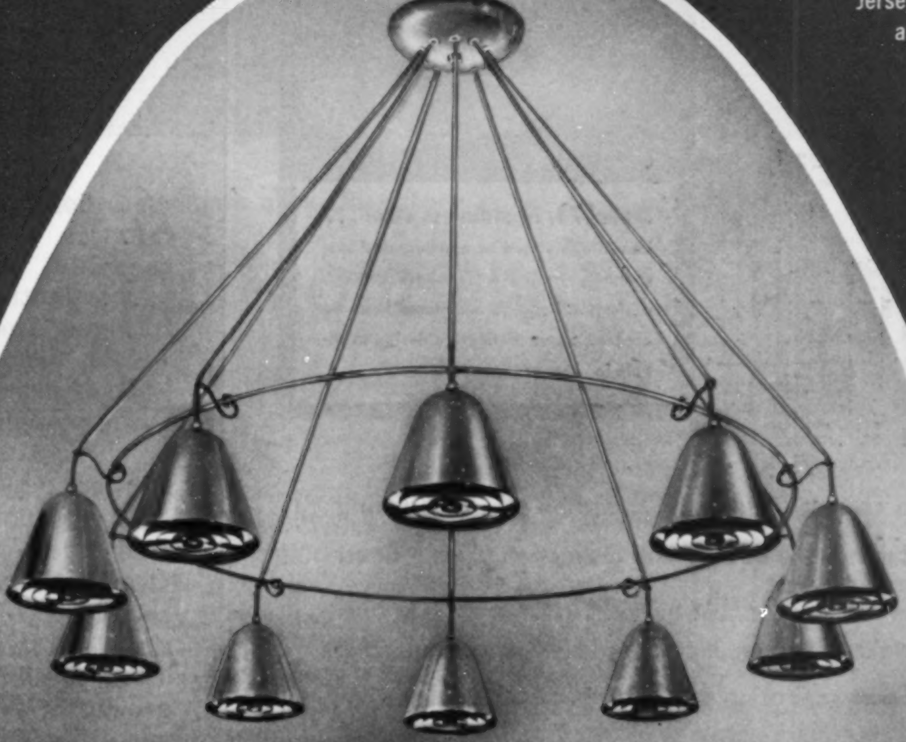
## SEE THE LIGHTOLIER PORTFOLIO COLLECTION AT THESE AUTHORIZED DISTRIBUTORS

**ALABAMA**
*Birmingham:*
Mayer Elec. Sup. Co.
*Mobile:*
F. E. Smith Elec. Co.
**ARIZONA**
*Phoenix:*
New State Elec. Co.
Marlin Assoc.
*Tucson:*
Beacon Ltg. Fix. Co.
**ARKANSAS**
*Little Rock:*
Adcock Ltg. & Sup.
**CALIFORNIA**
*Costa Mesa:*
Harry M. Whetsel Ltg.
*Glendale:*
Montrose Ltg.
*Hollywood:*
Mazda Ltg.
*Los Angeles:*
The Lightrend Co.
*Sacramento:*
Hobrecht Ltg. Fix. Co.
*San Diego:*
Coast Elec. Co.
Ratner Elec. Co.
*San Francisco:*
California Elec. Sup. Co.
**COLORADO**
*Denver:*
The Central Elec. Sup. Co.
**CONNECTICUT**
*Bridgeport:*
B. M. Tower Co., Inc.
*Danbury:*
Greene Elec. & Sup.
*Hartford:*
Beacon Ltg. Sup. Co.
*New Haven:*
Grand Lt. & Sup. Co.
*Stamford:*
Marle Co.
*Waterbury:*
Starbuck Sprague Co.
Suburban Sup. Co.
**DELAWARE**
*Wilmington:*
Art Craft Elec. Sup. Co.
**DISTRICT OF COLUMBIA**
Maurice Elec. Sup. Co.
National Elec. Whlses.
**FLORIDA**
*Daytona Beach:*
Hughes Sup. Inc.
*Ft. Lauderdale:*
Edison Elec. Sup. Co.
*Gainsville:*
Hughes Sup. Inc.
*Lakeland:*
Hughes Sup. Inc.
*Miami:*
Edison Elec. Sup. Co.
Farrey's Whlse. Hdwe.
*Orlando:*
Hughes Sup. Inc.
*St. Petersburg:*
D. C. Damm Lighting
*West Palm Beach:*
Edison Elec. Sup. Co.
**GEORGIA**
*Atlanta:*
Atlanta Ltg. Fix. Co.
Haley-Stewart Elec'l Co.
*Columbus:*
P. & W. Elec. Sup. Co.
**ILLINOIS**
*Bloomington:*
Springfield Elec. Sup. Co.
*Chicago:*
American Elec. Sup. Co.
Englewood Elec. Sup. Co.
Steiner Elec. Co.
Wholesale Elec. Sup. Co.
*Elgin:*
Fox Elec. Sup. Co.
*Rockford:*
Englewood Elec. Sup. Co.
*Springfield:*
Springfield Elec. Sup. Co.
**INDIANA**
*Gary:*
Englewood Elec. Sup. Co.
*Ft. Wayne:*
Mossman-Yarnelle
*Indianapolis:*
Farrell Argast Elec. Co.
*South Bend:*
Englewood Elec. Sup. Co.
**IOWA**
*Des Moines:*
Weston Ltg. Inc.
**KANSAS**
*Kansas City:*
W. T. Foley Elec. Co.
**KENTUCKY**
*Louisville:*
Henry J. Rueff Co.
**LOUISIANA**
*Baton Rouge:*
Electrical Whlse, Inc.
*New Orleans:*
Electrical Sup. Co.
Interstate Elec. Co.
*Shreveport:*
Interstate Elec. Co.
**MAINE**
*Bangor:*
Standard Elec.
*Portland:*
Holmes Elec.
**MARYLAND**
*Baltimore:*
Atlantic Illum.
Hoffman Elec. Sup. Co.
*Hagerstown:*
Noland Co.
**MASSACHUSETTS**
*Boston:*
Boston Lamp Co.
Mass. Gas & El. Lt. Co.
Henry L. Wolfers Co.
*Brockton:*
Columbia Elec. Sup. Co.
*Fitchburg:*
Service Elec. Sup. Co.
*Framingham:*
Framingham Elec. Sup. Co.
*Lawrence:*
Finberg Supply
*Lowell:*
Middlesex Hdwe & Sup. Co.
*Springfield:*
Eastern Elec. Sup. Co.
*Waltham:*
Service Elec. Mfg. Co.
*Worcester:*
Atlantic Elec. Sup.
Benjamin Elec. Sup.
**MICHIGAN**
*Benton Harbor:*
West Mich. Elec. Sup. Co.
*Detroit:*
Madison Elec. Co.
Michigan Chandelier Co.
*Grand Rapids:*
Purchase Elec.
*Muskegon:*
Fitzpatrick Elec. Sup. Co.
**MINNESOTA**
*Minneapolis:*
Northland Elec. Sup. Co.
*St. Paul*
Lax Elec. Co.
**MISSISSIPPI**
*Jackson:*
Stuart C. Irby Co.
**MISSOURI**
*St. Louis:*
M. K. Clark Co.
**NEBRASKA**
*Omaha:*
Elec. Fix. & Sup. Co.
**NEVADA**
*Reno:*
Western Elec. Dists.
**NEW JERSEY**
*Atlantic City:*
Franklin Elec. Sup.
*Camden:*
Flynn's Camden Elec. Co.
*Phillipsburg:*
Leidy Elec. Co.
*Wildwood:*
Franklin Elec. Sup.
**NEW MEXICO**
*Albuquerque:*
The Ltg. & Maint. Co.
**NEW YORK**
*Albany:*
Meginniss Elec. Corp.
*Buffalo:*
Buffalo Incand. Ltg. Co.
*Liberty:*
Liberty Elec. Sup. Co.
*Monticello:*
Monticello Sup. Co.
*Nanuet*
Rockland Elec. & Sup. Corp.
*Poughkeepsie:*
Electra Sup. Co.
*Rochester:*
Rowe Elec. Sup. Co.
Royalite Co.
*Schenectady:*
M. Gold & Son
*Syracuse:*
Superior Elec. Corp.
**NORTH CAROLINA**
*Charlotte:*
Independent Elec. Sup. Co.
*Kinston:*
Kinston Elec.
*Raleigh:*
Bernhard Supply Co.
*Winston-Salem:*
Noland Co.
**OHIO**
*Akron:*
The Sacks Elec. Sup. Co.
*Canton:*
Electric Sales Co.
*Cincinnati:*
B. & B. Elec. Co.
*Cleveland:*
The H. Leff Elec. Co.
*Columbus:*
Elgee Electric
*Toledo:*
Gross Elec. Fix. Co.
*Youngstown:*
Mart Industries Inc.
**OKLAHOMA**
*Oklahoma City:*
Hunzicker Bros.
**OREGON**
*Portland:*
Malloy Robinson Co.
**PENNSYLVANIA**
*Allentown:*
Coleman Elec. Co.
*Bala Cynwyd:*
Albert Acker Co.
*Erie:*
Kraus Elec. Co.
*Harrisburg:*
Fluorescent Sup. Co.
*Lancaster:*
Jno. Graybill & Co.
*New Castle:*
Midwestern Elec. Sup.
*Norristown:*
Norristown Elec. Sup. Co.
*Philadelphia:*
Ace Ltg. Fix. Co.
Friedman Elec. Sup. Co.
Gold Seal Elec. Sup. Co.
Sylvan Elec. Fix. Co.
W. Phila. Elec. Sup. Co.
*Pittsburgh:*
Allied Elec. Sup. Co.
Argo-Lite Studios
*Reading:*
Coleman Elec. Co.
*Scranton:*
Lewis & Reif Inc.
*Uniontown:*
Pioneer Elec. Dist.
*Wilkes-Barre:*
Anthracite Elec. Sup.
*York:*
Jno. Graybill & Co.
**RHODE ISLAND**
*Pawtucket:*
Major Elec. Sup. Co.
*Providence:*
City Hall Hdwe. Co.
**SOUTH CAROLINA**
*Columbia:*
Noland Co.
*Greenville*
Sullivan Hdwe. Co.
**TENNESSEE**
*Chattanooga:*
Mid-South Sup. Co.
*Memphis:*
Belvedere Ltg. Co.
*Nashville:*
Nashville Elec. Co.
**TEXAS**
*Amarillo:*
Nunn Elec. Sup. Corp.
*Brownsville:*
Elec. Fix. Sup.
*Dallas:*
Cockrell Winniford Co.
Rogers Elec. Sup. Co.
*Ft. Worth:*
Anderson Fix. Co.
*Houston:*
Marlin Assoc.
Worth Elec. Sup. Co.
Southern Elec. Sup. Co.
*Lubbock:*
Homer G. Maxey
Nunn Elec. Sup.
*San Antonio:*
Straus-Frank Co.
**UTAH**
*Salt Lake City:*
Sharp Elec. Co.
**VIRGINIA**
*Arlington:*
Dominion Elec. Sup.
*Newport News*
Centralite Sup. Co.
*Norfolk:*
E. E. Bibb & Co.
*Richmond:*
Atlantic Elec. Sup. Co.
*Roanoke:*
Noland Co.
**WASHINGTON**
*Seattle:*
Seattle Ltg. Fix. Co.
*Spokane:*
Columbia Elec. & Mfg. Co.
**WISCONSIN**
*Appleton:*
Moe Bros. Northern
*Milwaukee:*
Lappin Elec. Co.
**ALASKA**
*Anchorage:*
Northern Supply
**CANADA**
*Calgary:*
Electrical Wholesalers Ltd.
*Edmonton:*
Alberta Electrical Supplies
*Montreal:*
Gray Electric Co.
Ideal Elec. Co.
Union Elec. Sup.
*Toronto:*
Revere Elec'l Dist.
Toronto Elec. Sup. Co.
*Vancouver, B.C.*
McLaren Elec. Ltd.
*Winnipeg:*
Dominion Elec. Ltd.
**CUBA**
The Independent Elec. Co.
**HAWAII**
*Honolulu:*
Hawaiian Ltg. & Sup.

# You can work wonders with light



For lighting that adds the perfect decorative touch, look to Lightolier. Illustrated: two of many portfolio designs on view in our showrooms and at the authorized distributors listed left. All have these elements in common: good taste, high quality, superior illumination. Also available: special designs for special purposes, technical advisory service. Write on professional letterhead to Dept. P Jersey City 5, N. J., for a full-color catalog.



# when you work with

# LIGHTOLIER

Showrooms: 11 E. 36 St., New York • 1267 Merchandise Mart, Chicago

**Alvin Hansen**
*Harvard University*

What is the most important economic problem that will confront the U.S. in the next 20 years? It is, I believe, the problem created by the sweeping increase in urbanization.

It may be anticipated that 168 metropolitan areas in the U. S. with a total population of 100 million will grow to, perhaps, 155 million in 20 years. Unfortunately, the U.S. is peculiarly unfitted by temperament and historical background, and by our obsolete, Balkanized network of multiple local governments, to face this problem.

The great industrial centers of the U.S. have been allowed to spawn and grow like topsy. We have no tradition of city planning, no deep sense of esthetic values, of spaciously laid out squares with fountains, landscaping, flowers, shrubs, or trees, no pride in architecturally satisfying public buildings. We have traditionally regarded expenditure on such things as economically wasteful.

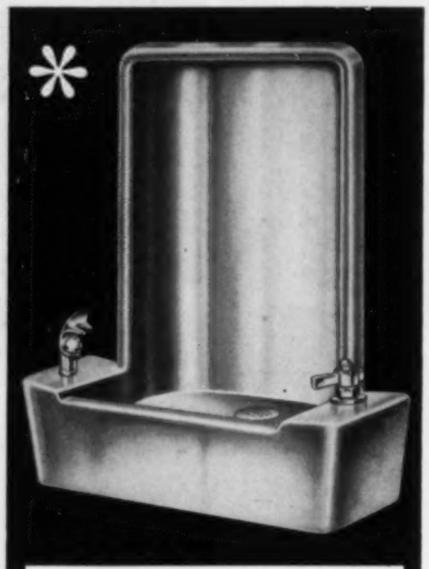
Even our pitifully inadequate post-office buildings have served as a butt for jokes about wasteful extravagance. Not since colonial days has the U.S. been able to "afford" elegant and artistic public buildings. And even today, when it produces half the world's output, the U.S. can still not "afford" these amenities.

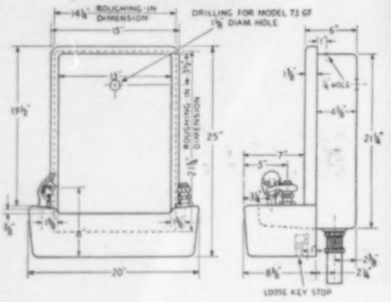
VICTOR JORGENSEN—SCOPE

ALVIN HANSEN

The central *economic* problem springing from urban development will be that of finance. The tidal wave of urban growth will push to the foreground as never before the problem of federal-state-local fiscal relations.

The federal government is already deep in urban redevelopment, and no amount of talk about shifting public functions to state and local bodies will dispose of its responsibilities. The impending growth of metropolitan areas will be so torrential in scope and magnitude that out of it drastic changes will have occurred at the end of two decades in federal-state-local finances. We shall witness a hard political fight between restrictionist states' righters and federal expansionists. This fight will determine in large part how adequately the needs of the rapidly growing urban communities will be met. END





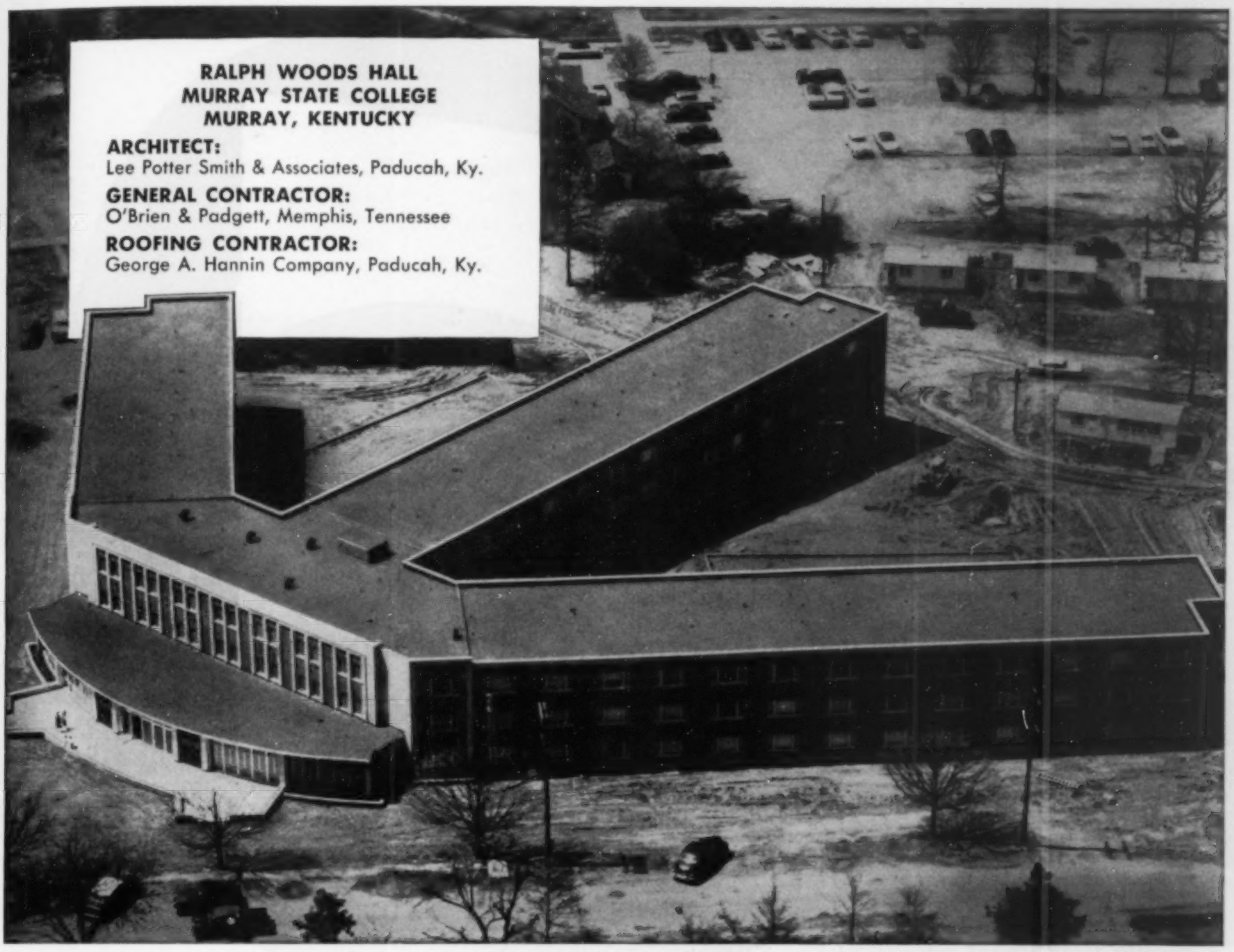
fine plans demand
FINE
DRINKING
FOUNTAINS
by
HAWS

**Model 73, in stainless steel...** beautifully styled to match grand surroundings—with HAWS raised, shielded, anti-squirt head, and automatic stream control. Same distinctive design available in vitreous china (Model 77).

**Specify HAWS recessed fountains...** and be *sure* of drinking facilities that match the quality and distinction of your finest project. Snugly recessed in the wall, they provide the utmost in modern drinking convenience... and HAWS workmanship assures the finest sanitation and service.

**WRITE FOR DETAILS!** These and hundreds of other fountains are illustrated in HAWS new 1957 catalog. *Ask for your free copy!*

HAWS DRINKING FAUCET COMPANY
1443 FOURTH STREET (Since 1909) BERKELEY 10, CALIFORNIA



**RALPH WOODS HALL**
**MURRAY STATE COLLEGE**
**MURRAY, KENTUCKY**
**ARCHITECT:**
Lee Potter Smith & Associates, Paducah, Ky.
**GENERAL CONTRACTOR:**
O'Brien & Padgett, Memphis, Tennessee
**ROOFING CONTRACTOR:**
George A. Hannin Company, Paducah, Ky.

*On Murray State College's new dormitory . . .*

# A RUBEROID BUILT-UP ROOF

## Was engineered to fit the job

Ralph Woods Hall, the new dormitory for women at Murray State College, has a unique design feature. Three dormitories are joined into one by connecting three wings with a large circular lobby.

But there is nothing unique in the use of Ruberoid Built-Up Roof specifications. The fact that Ruberoid Built-Up Roofs are the answer to many roofing problems has long been known to progressive architects and builders everywhere.

In engineering the roof construction to fit the needs of the building, three different Ruberoid specifications were used. The largest portion of the roof—398 squares—is Coal Tar Pitch and Tarred Felt with a Gravel Finish (Specification #202). A second section is a Dubl-Coverage Mineral Surface Roof (Specification #159). In still another area, Asbestos Felt and Asphalt Felt with a Smooth Finish (Ruberoid Specification #208) was used.

As with all Ruberoid Built-Up Roofs, rigid standards of manufacture will assure Murray State College of many more years of trouble-free service for their roofing dollar.

Ask your Ruberoid Approved Roofer to demonstrate the advantages of Ruberoid products when next you are faced with a built-up roofing job. You will find that there is a Ruberoid specification to fit whatever requirements you may have.

SEE OUR CATALOG IN SWEET'S S
OR WRITE FOR COPY

**The RUBEROID Co.** **Asphalt and Asbestos Building Materials**
500 Fifth Avenue, New York 36, N. Y.

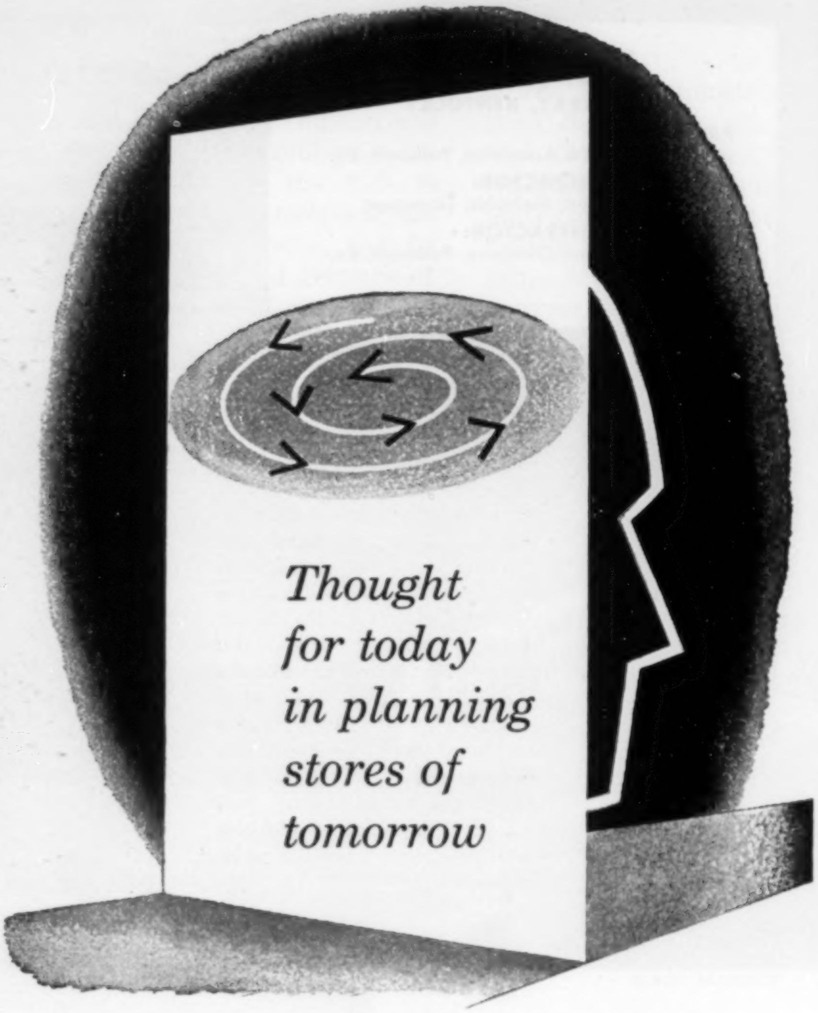
## Automatic Door Openings Rate Consideration of Store Planners

An important part of any store front is the door openings. Make them automatic and you get functional efficiency *that is good for business.* Where store doors are operated automatically by STANLEY *MAGIC-DOOR* controls, customers find shopping easier and more pleasant . . . so that's where they do business.

In the complete *MAGIC-DOOR* line, the controls most suitable for the operation of store entrance doors are STANLEY *MAGIC-DOOR* carpet or photoelectric controls. Because of the growing trend toward more colorful store entrances, STANLEY *MAGIC-DOOR* carpets are available in a range of weather-fast, traffic-resistant colors.

*MAGIC-DOOR* operators may be visible or concealed overhead or in the floor. *They meet every architectural requirement of space and appearance.*

When planning automatic door openings for tomorrow's stores, remember that *MAGIC-DOOR* has been the leader in the field for a quarter of a century. Write for complete information and the address of your *MAGIC-DOOR* authorized representative.


*Thought for today in planning stores of tomorrow*

**. . . . . STANLEY**

***MAGIC-DOOR* Controls**

Design functional efficiency into your store plans by including automatic door controls. And in making your selection *look to the leader in the field* . . . STANLEY *MAGIC-DOOR*. *MAGIC-DOOR* controls are products of a quarter-century of experience. In thousands of installations, they have proved dependable. Call on the authorized STANLEY *MAGIC-DOOR* Representative for ideas and technical planning assistance at the planning stage.

*For immediate information, see Sweet's Architectural File or write for A.I.A. File No. 16-D to Magic Door Sales,*

*The Stanley Works, Dept. B, 1005 Lake Street,*
*New Britain, Conn.*

*Sales and service representatives throughout the United States and Canada.*

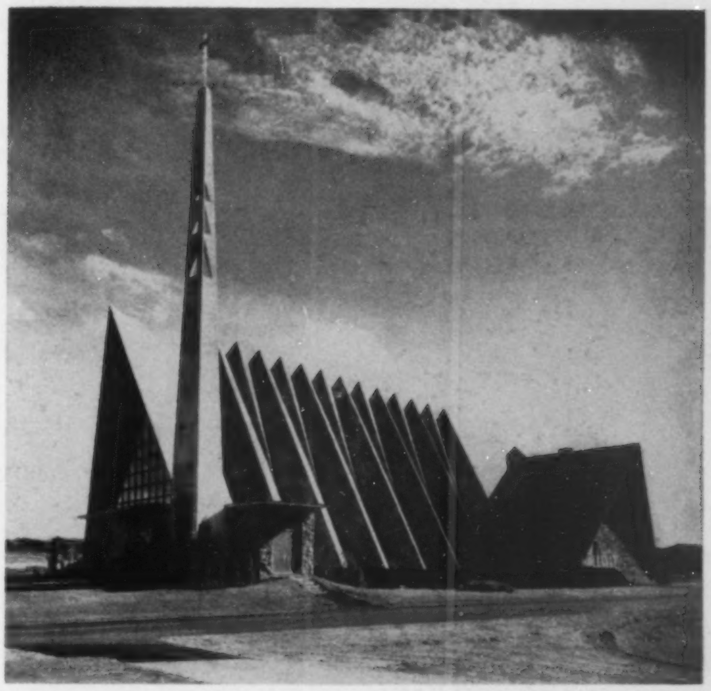
**AMERICA BUILDS BETTER AND LIVES BETTER WITH STANLEY**

**STANLEY**

This famous trademark distinguishes over 20,000 quality products of The Stanley Works—hand and electric tools • drapery, industrial and builders hardware • door controls • aluminum windows • metal parts • coatings • steel and steel strapping—made in 24 Stanley plants in the United States, Canada, England and Germany

# Abroad

## A continuing review of international building

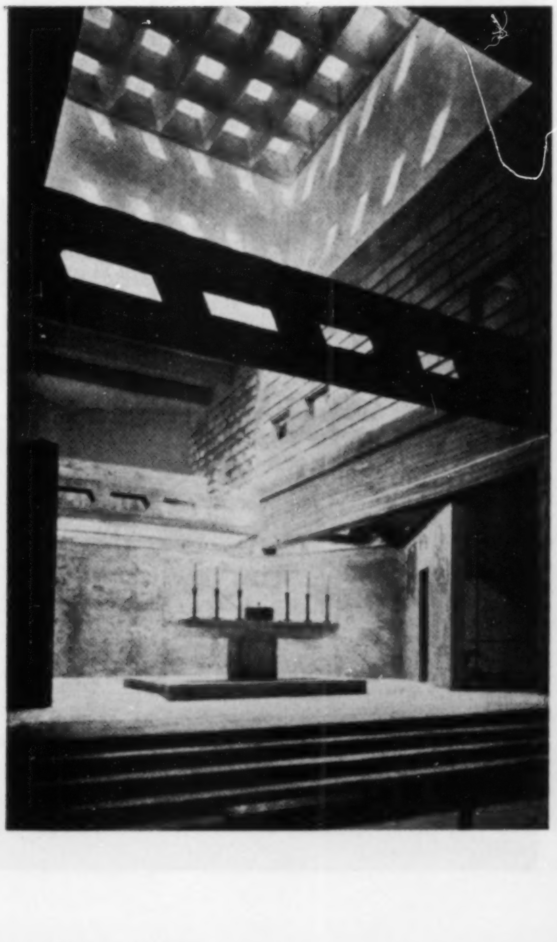


COURTESY "RAIC JOURNAL"

### STRIKING IN CANADA

In Bagotville, Quebec, about 100 miles north of Quebec City, Architect Paul-Marie Coté has designed a jagged church that strikingly interrupts the flatness of a riverside landscape. The roof of St. Mark's Church is formed by steep, thin planes of reinforced concrete, "folded" to give them great strength. The building is taller at the glass-enclosed entrance than at the altar end, so that, from the inside, the view along the nave is progressively restricted, finely focused on the circular altar.

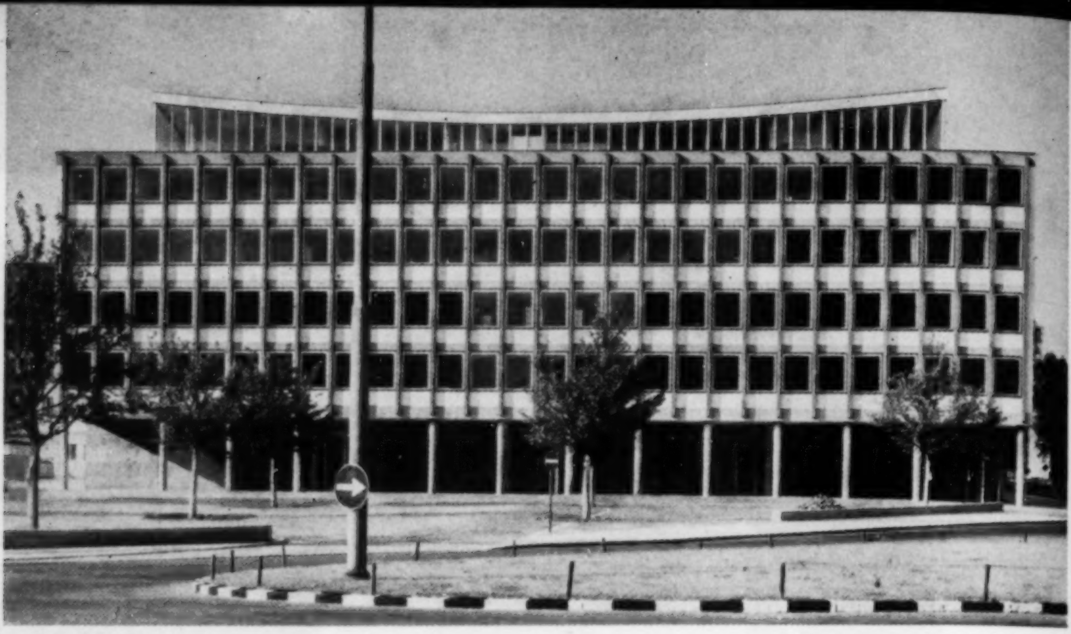
---



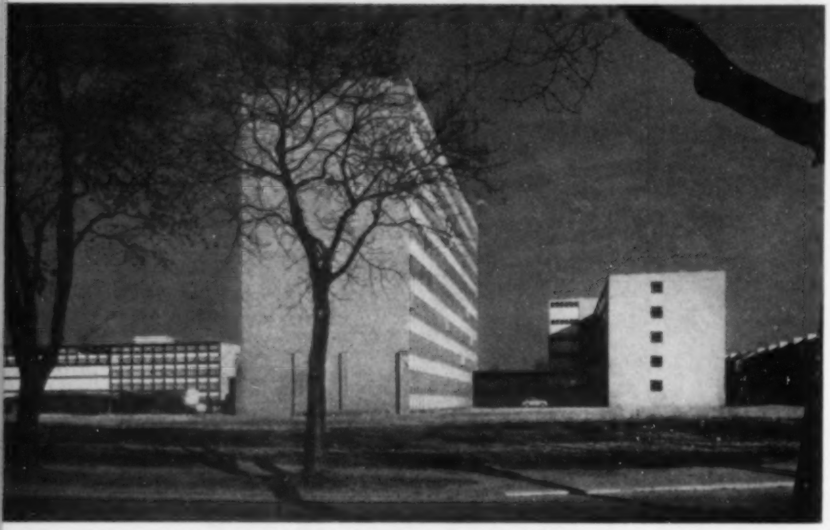
### PROTECTIVE IN ITALY

On the outskirts of Milan, Architects Luigi Figani and Gino Pollini have built a church that combines great structural strength with a mystical atmosphere. Strength is given by massive concrete beams (some of which have the open-web look of U. S. Architect Louis Kahn's structures—FORUM, Oct. '57) and by roughly chiseled stonework. The aura of mysticism results partly from the architect's decision to filter natural light through holes deeply pierced in the walls and roof. Even in the model (below), the solidity of the stone and protective muscularity of the structure can be felt. In the church itself (left) an altar screen reinforces the architecture's sheltering effect.

PHOTOS COURTESY "L'ARCHITETTURA"


1

PHOTOS COURTESY "BAUEN & WOHNEN"


2

### GERMAN CORPORATE FACE

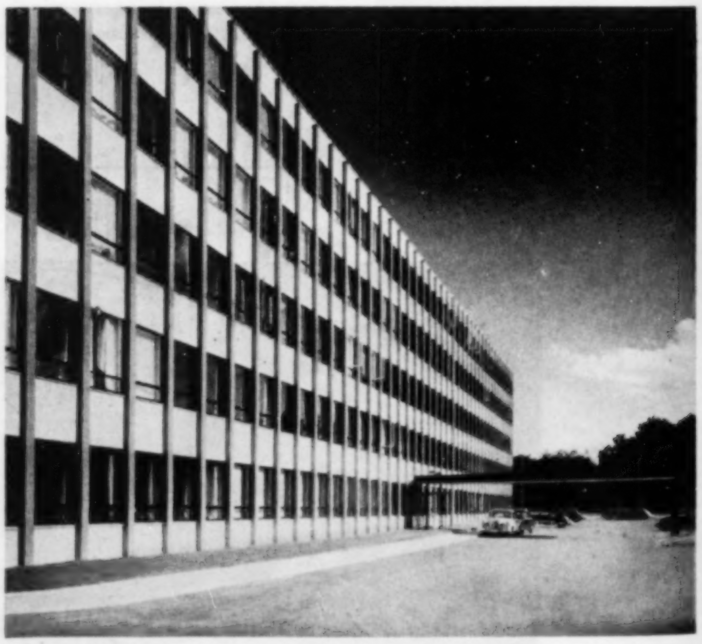
Since 1916, West Germany's Siemens & Halske Co.—now the largest electrical-equipment firm in Europe — has contributed much noteworthy architecture and planning to European building. Somewhat like GE in this country, Siemens early recognized the advantages of enlightened employee relations and advanced industrial design. "Siemens City" in Berlin, built during the period 1932 to 1934, still stands as a statement of what a progressive firm can do in plant construction and employee housing.

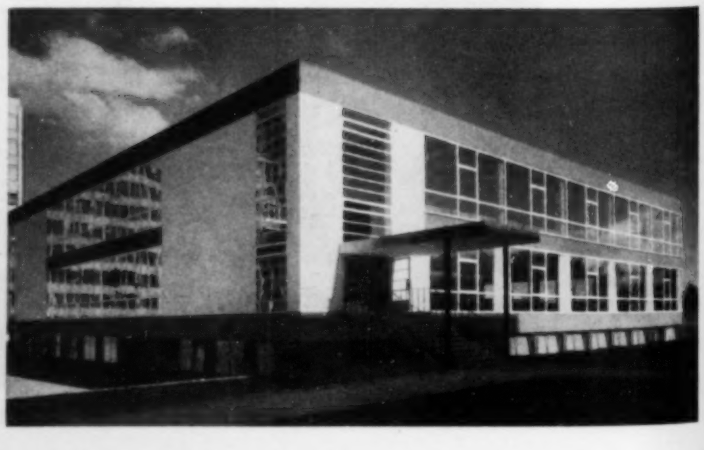
One of the company's few operative outposts at the end of World War II was in Munich; and it was in Munich, after years of exploration, that Siemens decided to concentrate its postwar building effort—a program of industrial architecture and planning that ranks with the largest in Europe.

Unlike the highly diversified architectural styles characteristic of the postwar building programs of most European companies, Siemens has sought to maintain a strong unity of design (for both aesthetic and economic reasons). The unity is apparent in the buildings shown on this page, despite the variety of their uses. All were designed by Munich Architect Hans Maurer, who worked in cooperation with Siemens & Halske's building division. Largest of the structures is the sway-backed main administration building (1) that has room for ground-floor exhibition areas, an auditorium, and top-floor training rooms, as well as for administrative offices.

The most heavily concentrated Siemens grouping will be on Munich's Balanstrasse (2), where three factory buildings have already been constructed. Clearly related to the main administration building are the new management offices on Hofmanstrasse (3). Most delightful of the buildings is the nearby workers' cafeteria and lounge (4) that manages to harmonize with the other buildings, while adding rhythms of its own.

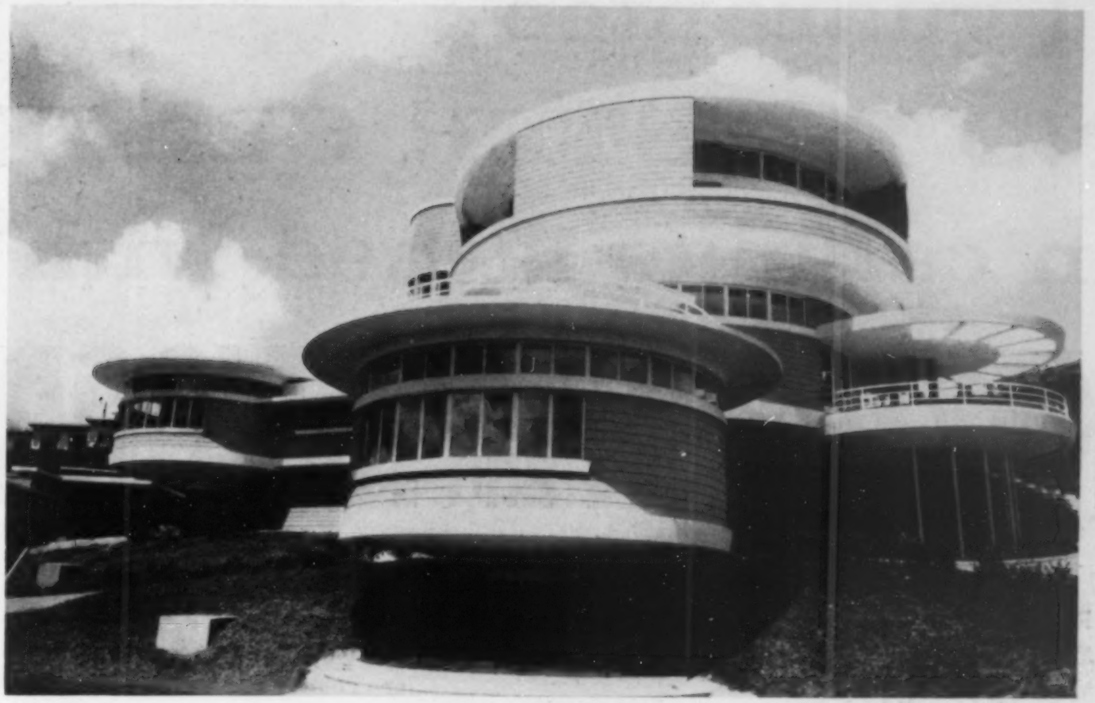
3


4



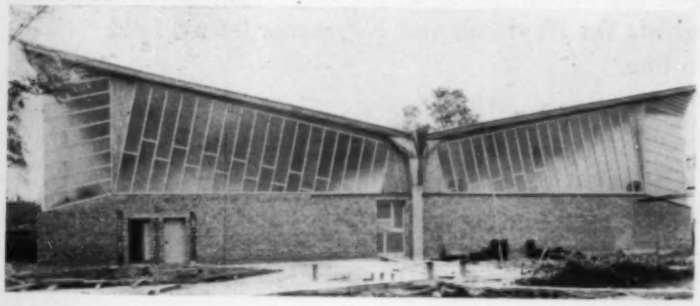
### EAST AFRICA CONTEMPORARY

Circling upward from its four stems, Contractor R. J. Mehta's new house in Kampala, Uganda was designed by Kenya Architect Kersey D. Moddie to be "an organic plan for contemporary living in Africa." Whether or not the house fulfills that purpose, it offers an ingenious solution to the problem of building on a hillside: vertical piers rather than horizontal foundations. It also takes maximum advantage of the scenic possibilities of the site, while giving neighbors below an opportunity to ponder what organic architecture really is.



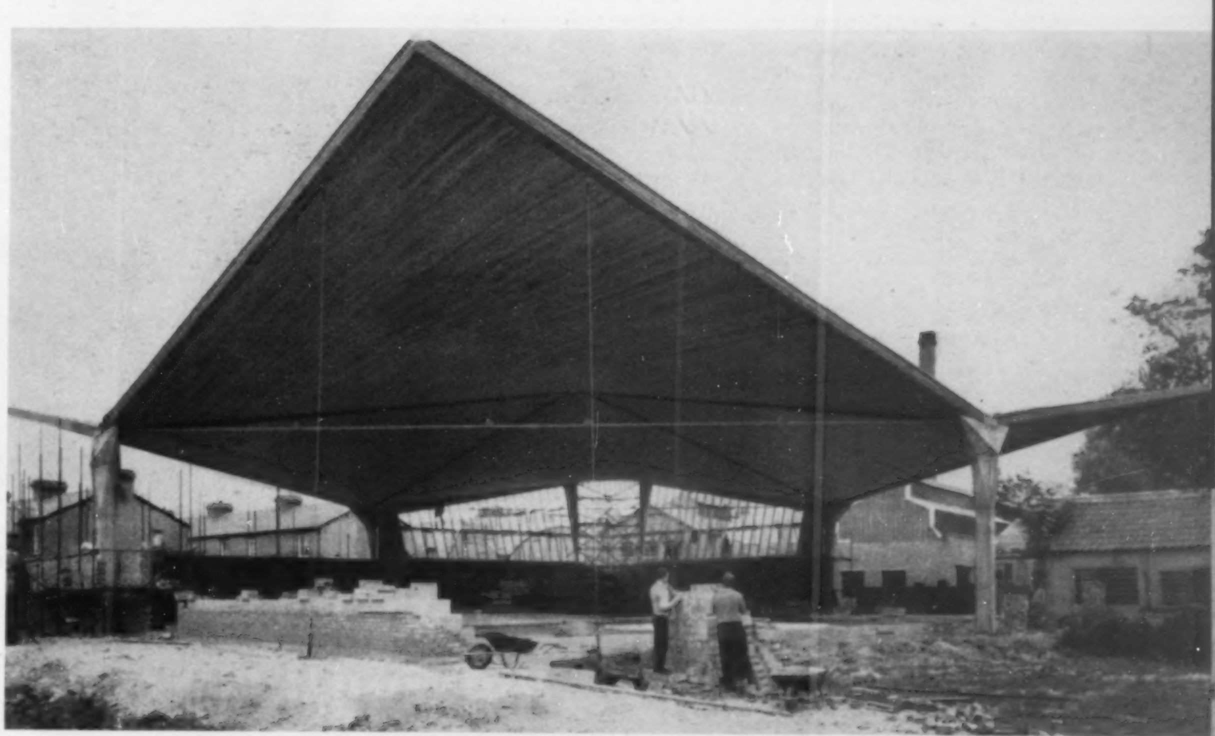
---

PHOTOS (BELOW): F. FUTCHER & SON



### BRITISH FLYING CARPET

The international race for supremacy in shell construction may not be so vital as the competition in armaments, but it is nonetheless heated. An interesting entry from England is the wooden roof of a weaving shed for the Wilton Royal Carpet Co. in Salisbury (seen in construction at right). Built of four 57-foot-square hyperbolic paraboloid sections, the laminated wood roof is supported by four concrete columns. Architect Robert Townsend is pleased that construction costs of the completed building (above) have been kept below $10 per square foot. The owners are equally pleased with the lofty, open floor area, a notable contrast to interiors of nearby seventeenth-century buildings. END



# "I guarantee NO PLASTER CRACKS in ceilings lathed with KEYMESH and KEYCORNER"

**PROMISES WILLIAM E. EBY, CHICAGO LATHING CONTRACTOR**

Everybody wants crack-free ceilings. That's why Bill Eby's guarantee is so important to you. "Believe me, I wouldn't make such a guarantee unless I'm sure," emphasizes Eby. "This lathing system will give you crack-free ceilings every time. And anybody can use this system. It's no Eby patent.

"I searched for years for a better lathing system. I tested and rejected any number of systems and reinforcements," Eby points out. "Now after three years of using this new lathing system with Keymesh and Keycorner, I know I'm right.

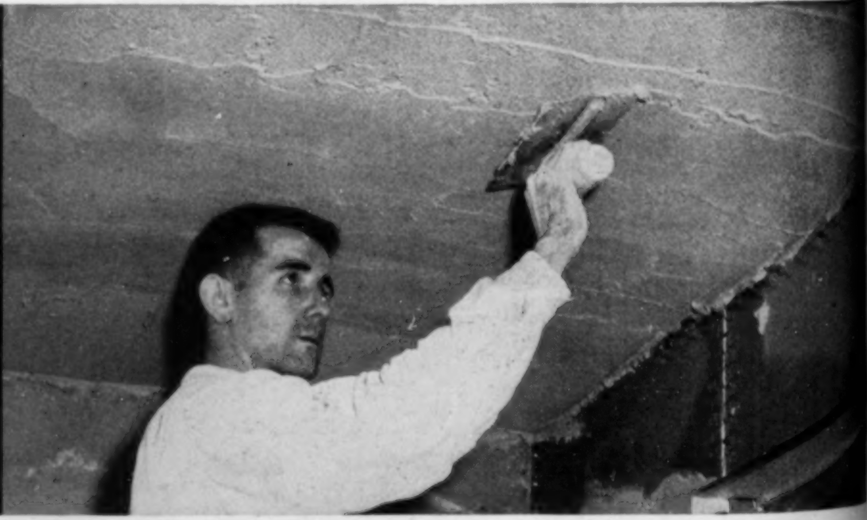
"Here's another fact that may surprise you. Builders are switching back to lath and plaster for one big reason—savings. New application systems and modern colored plaster add up to a low-cost buy. You save the costs of paint and painting. Above this, lower maintenance costs and increased fire safety make lath and plaster a top value.

"Absolutely no ceiling cracks with this lathing system. You get added life from plaster. Upkeep costs are slashed. Yet Keymesh and Keycorner let me hold costs in line."

* * *

*It will pay you to learn all the facts about the Eby system of lathing with Keymesh and Keycorner and why he can make this guarantee of a crack-free ceiling.*

Eby (left) inspects application of Keycorner, used to reinforce joints. Keycorner is also used at all wall and corner junctures.

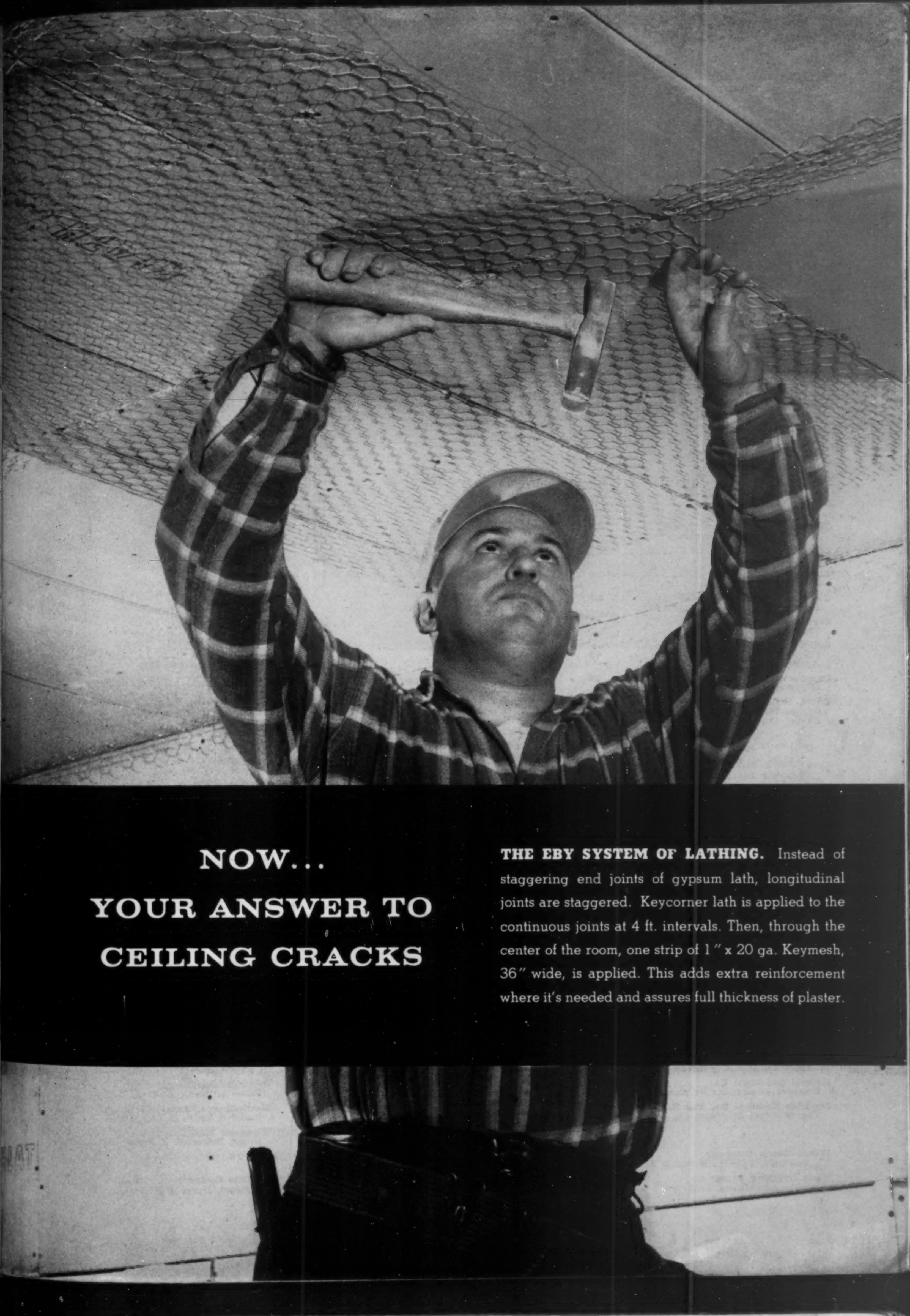


Plaster is applied over reinforced ceiling. The open mesh of both Keymesh and Keycorner assures imbedment in plaster. The open mesh also insures full bond of plaster with gypsum lath.

**KEYSTONE STEEL & WIRE COMPANY**

**Peoria 7, Illinois**

**Keywall • Keymesh • Keycorner • Keybead • Nails • Welded Wire Fabric**



# NOW... YOUR ANSWER TO CEILING CRACKS

**THE EBY SYSTEM OF LATHING.** Instead of staggering end joints of gypsum lath, longitudinal joints are staggered. Keycorner lath is applied to the continuous joints at 4 ft. intervals. Then, through the center of the room, one strip of 1″ x 20 ga. Keymesh, 36″ wide, is applied. This adds extra reinforcement where it's needed and assures full thickness of plaster.

Keywall • Keymesh • Keycorner • Keybead • Nails • Welded Wire Fabric

# Ad Index

*Italic line indicates advertising agency*

**Allegheny Ludlum Steel Corp.** 146
*W. S. Walker Advertising, Inc.*
**Alumiline Corp., The** 156
*International Advertisers*
**American Welding & Mfg. Co., The** 66
*The Bayless-Kerr Company*

**Bakelite Company Division of Union Carbide Corp.** 128B
**Balfour & Co., Walter** 14
*Marshall & Coch*
**Bell & Gossett Company** 22, 23
*Perrin-Paus Company*
**Bituminous Coal Institute** 149
*VanSant, Dugdale & Co., Inc.*
**Bogen Co., Inc., David** 55
*Friend-Reiss Advertising*
**Bradley Washfountain Co.** 130
*Kirkgasser-Drew Advertising*
**Brown Company** 128
*J. M. Mathes, Inc.*
**Bruning Co., Inc., Charles** 47
*H. W. Kastor & Sons Adv. Co., Inc.*
**Bulldog Electric Products Co.** 170
*MacManus, John & Adams, Inc.*
**Byrne Doors, Inc.** 165
*Gray & Kilgore, Inc.*

**Carrier Corp.** 4, 5
*N. W. Ayer & Son, Inc.*
**Celotex Corp., The** 144
*MacFarland, Aveyard & Co.*
**Chicago Hardware Foundry Co.** 166
*Wilson Advertising Service*
**Concrete Reinforcing Steel Institute** 174
*The Fensholt Advertising Agency*
**Congoleum-Nairn, Inc.** Cover IV
*Dancer-Fitzgerald-Sample, Inc.*
**Contrex Company** 131
*Parsons, Friedmann & Central, Inc.*
**Corning Glass Works** 24
*The Rumrill Company, Inc.*
**Cotan Corp. (Div. of Interchemical Corp.)** 10
*Agency—Direct*
**Cupples Products Corporation** 28
*Ridgway Advertising Co.*
**Curon Division Curtiss-Wright** 17
*Burke, Dowling, Adams*

**Dor-O-Matic Div. (Republic Industries, Inc.)** 133
*Merrill, McEnroe & Associates, Inc.*
**Dunham-Bush, Inc.** 136
*Wm. C. Schaller Co., Inc.*
**Dur-O-Wal** 55
*Ambro Advertising Agency*

**Eljer Division of The Murray Corp. of America** 27
*Fuller & Smith & Ross, Inc.*

**Fairhurst Co., Inc., John T.** 68
*J. C. Bull, Inc.*
**Fenestra Incorporated** 2, 3
*Fuller & Smith & Ross, Inc.*
**Fine Hardwoods Association** 36A
*Alan T. Mann Company, Inc.*
**Freyssinet Affiliates** 15
*Albert Frank-Guenther Law, Inc.*

**General Electric Co.** 155
*Ruthrauff & Ryan, Inc.*
**General Gas Light Co.** 160
*Crescent Advertising Service*
**Goodrich Chemical Co., The B. F.** 52
*The Griswold-Eshleman Co.*

**Haven-Busch Company** 164
*Van Stee, Schmidt & Sefton Advertising*
**Haws Drinking Faucet Co.** 176
*Pacific Advertising Staff*
**Hendrick Manufacturing Company** 174
*G. M. Basford Co.*
**Hillyard Chemical Company** 145
*Phillips-Reick-Fardon Advertising*
**Hokusan Shokai, Ltd.** 156
*Agency—Direct*
**Hooker Electrochemical Co. Durez Plastics Division** 30
*The Rumrill Company, Inc.*
**Hope's Windows, Inc.** 161
*The Moss-Chase Company*

**Ideal Cement Company** 35
*Rippey, Henderson, Bucknum & Co.*
**Inland Steel Products Co.** 21
*Hoffman & York, Inc.*
**International Plastics Corp.** 150
*O. S. Tyson & Co., Inc.*

**Johnson Service Co.** 18, 19
*St. Georges & Keyes, Inc.*

**Karagheusian, Inc., A. & M.** 185
*Fuller & Smith & Ross, Inc.*
**Kentile, Inc.** Cover III
*Benton & Bowles, Inc.*
**Keystone Steel & Wire Co.** 182, 183
*Fuller & Smith & Ross, Inc.*
**Knoll Associates, Inc.** 20
*The Zlowe Company*

**Leviton Mfg. Co.** 58
*Al Paul Lefton Co., Inc.*
**Libbey-Owens-Ford Glass Co.** 144A-D, 163
*Fuller & Smith & Ross, Inc.*
**Lightolier, Inc.** 174, 175
*Alfred Auerbach Associates*
**Litecontrol Corp.** 157
*Sutherland-Abbott*
**Lone Star Cement Corp.** 36B
*Donahue & Coe, Inc.*
**Louisville Cement Co.** 31
*Doe-Anderson Advertising*

**Mahon Company, The R. C.** 25, 32, 33, 60
*Anderson Incorporated*
**Marble Institute of America, Inc.** 158, 159
*Moore & Company, Inc.*
**Marmet Corp., The** 167
*Paulson-Gerlach & Associates, Inc.*
**McLouth Steel Corporation** 128A
*Denman & Baker, Inc.*
**McQuay, Inc.** 54
*Grubb-Cleland Co.*
**Minneapolis-Honeywell Regulator Co.** 134, 135
*Foote, Cone & Belding*
**Mo-Sai Associates** 151
*David W. Evans & Associates*
**Mosaic Tile Company, The** 52A, B
*Farson, Huff & Northlich*

**National Electric Products Corp.** 124
*Ketchum, MacLeod & Grove, Inc.*
**National Gypsum Company** 169, 171
*Batten, Barton, Durstine & Osborn, Inc.*
**North Carolina Granite Corp.** 166
*Houck & Co., Inc.*
**Norton Company** 16
*John W. Odlin Company, Inc.*
**Norton Door Closer Co.** 173
*Erwin Wasey, Ruthrauff & Ryan, Inc.*

**Owens-Corning Fiberglas Corp.** 64
*McCann-Erickson, Inc.*

**Petro** 49
*Joseph R. Gerber Co.*
**Phelps-Dodge Copper Products Corp.** 137
*Compton Advertising, Inc.*
**Pittsburgh Plate Glass Co.** 138, 139
*Batten, Barton, Durstine & Osborn, Inc.*
**Pomeroy Co., S. H.** 26
*C. Thomson Agency*
**Powers Regulator Co.** 40, 41
*Symonds, MacKenzie & Co.*

**Ramset Fastening System (Olin Mathieson Chemical Corp.)** 168
*Fuller & Smith & Ross, Inc.*
**Republic Steel Corp.** 50, 51
*Meldrum & Fewsmith, Inc.*
**Reznor Mfg. Co.** 46
*Kight Advertising, Inc.*
**Richmond Plumbing Fixtures Div.** Cover II
*Buchanan & Company, Inc.*
**Robbins Flooring Co.** 152
*Van Stee, Schmidt & Sefton*
**Robertson Company, H. H.** 56, 57
*Bond & Starr, Inc.*
**Rowe Mfg. Co.** 53
*Rogers & Smith*
**Ruberoid Company, The** 177
*Fuller & Smith & Ross, Inc.*
**Rust-Oleum Corporation** 29
*O'Grady-Andersen-Gray, Inc.*

**Sanymetal Products Co., Inc., The** 34
*The Lee Donnelley Co.*
**Seaporcel Metals, Inc.** 140, 141
*The Rockmore Company*
**Seven Arts Book Society** 123
*Roeding & Arnold, Inc.*
**Simplex Ceiling Corp.** 147
*Fischer & Brucker, Inc.*
**Sloan Valve Company** 6
*Reincke, Meyer & Finn, Inc.*
**Standard Conveyor Co.** 172
*Klau, Van Pietersom, Dunlop, Inc.*
**Standard Products Co., The** 62
*Fuller & Smith & Ross, Inc.*
**Stanley Works, The** 178
*Hugh H. Graham & Associates, Inc.*
**Stephens-Adamson Mfg. Co.** 36
*Connor Associates, Inc.*
**Stromberg Time Corp.** 48
*G. F. Sweet & Co., Inc.*

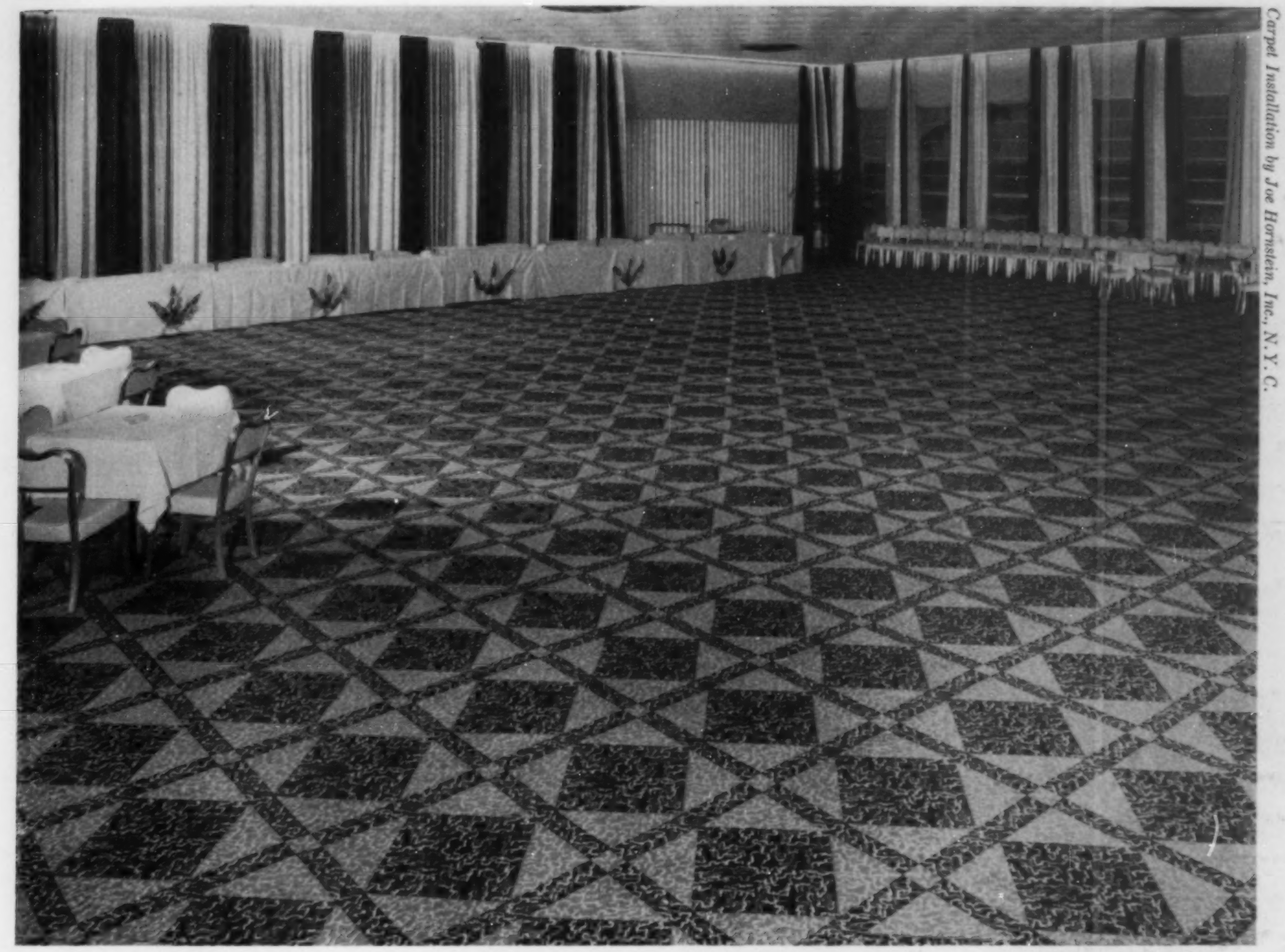
**Todd Shipyards Corp.** 167
*Wendell P. Colton Co.*

**Union Carbide Corporation Bakelite Co.** 128B
*J. M. Mathes, Inc.*
**Union Pacific R. R.** 132
*The Caples Company*
**United States Ceramic Tile Co.** 154
*The Griswold-Eshleman Co.*
**United States Plywood Corp.** 42
*Kenyon & Eckhardt, Inc.*
**Universal Atlas Cement Co. (U. S. Steel Corp.)** 59
*Batten, Barton, Durstine & Osborn, Inc.*
**Uvalde Rock Asphalt Co.** 153
*Glenn Advertising, Inc.*

**Valley Metal Products Company** 143
*Stevens, Inc.*
**Van Range Co., The John** 148
*Associated Advertising Agency, Inc.*

**Waylite Company, The** 126
*Harris & Bond, Inc.*
**Wearproof Mat Co.** 167
*Fred Sider, Advertising*
**Weirton Steel Company** 65
*Campbell-Ewald Company*
**Westinghouse Electric Corp.** 162
*Fuller & Smith & Ross, Inc.*
**Westinghouse Electric Corp.** 44
*Fuller & Smith & Ross, Inc.*
**Winpower Mfg. Co.** 142
*Grant, Schwenck & Baker, Inc.*

**Zonolite Company** 125
*Henri, Hurst & McDonald, Inc.*



Carpet Installation by Joe Hornstein, Inc., N. Y. C.

# *New way to cut costs* ✻

The Gulistan Carpet you see here is *more* than a carpet: It's a sound investment that will pay for itself in maintenance savings! Actually, with Gulistan Carpet you can cut floor maintenance costs up to 50% over noncarpeted floors. Often, too, your Gulistan Carpet is the only acoustical material needed for satisfactory *sound* conditioning. And its quiet beauty and comfort offer your customers the kind of relaxed enjoyment that keeps them coming back.

*Shown above:* The popular Mayfair Room of the new Hollywood Beach Hotel, Hollywood, Florida. Enhancing its modern decor is the smart, geometric design of richly textured, woven all-wool Gulistan Carpet. For facts that can help you cut costs and improve business, call your Certified Gulistan Carpet Dealer, or mail coupon below.

**GULISTAN**

**CARPET**

**pays for itself in maintenance savings**

MADE IN U. S. A. BY AMERICAN CRAFTSMEN

A. & M. Karagheusian, Inc., Dept. AF-2
295 Fifth Avenue, New York 16, N. Y.
*Please send me your two free cost studies:*
"Cutting Costs With Carpet"
"Sound Conditioning With Carpet"

NAME________________________

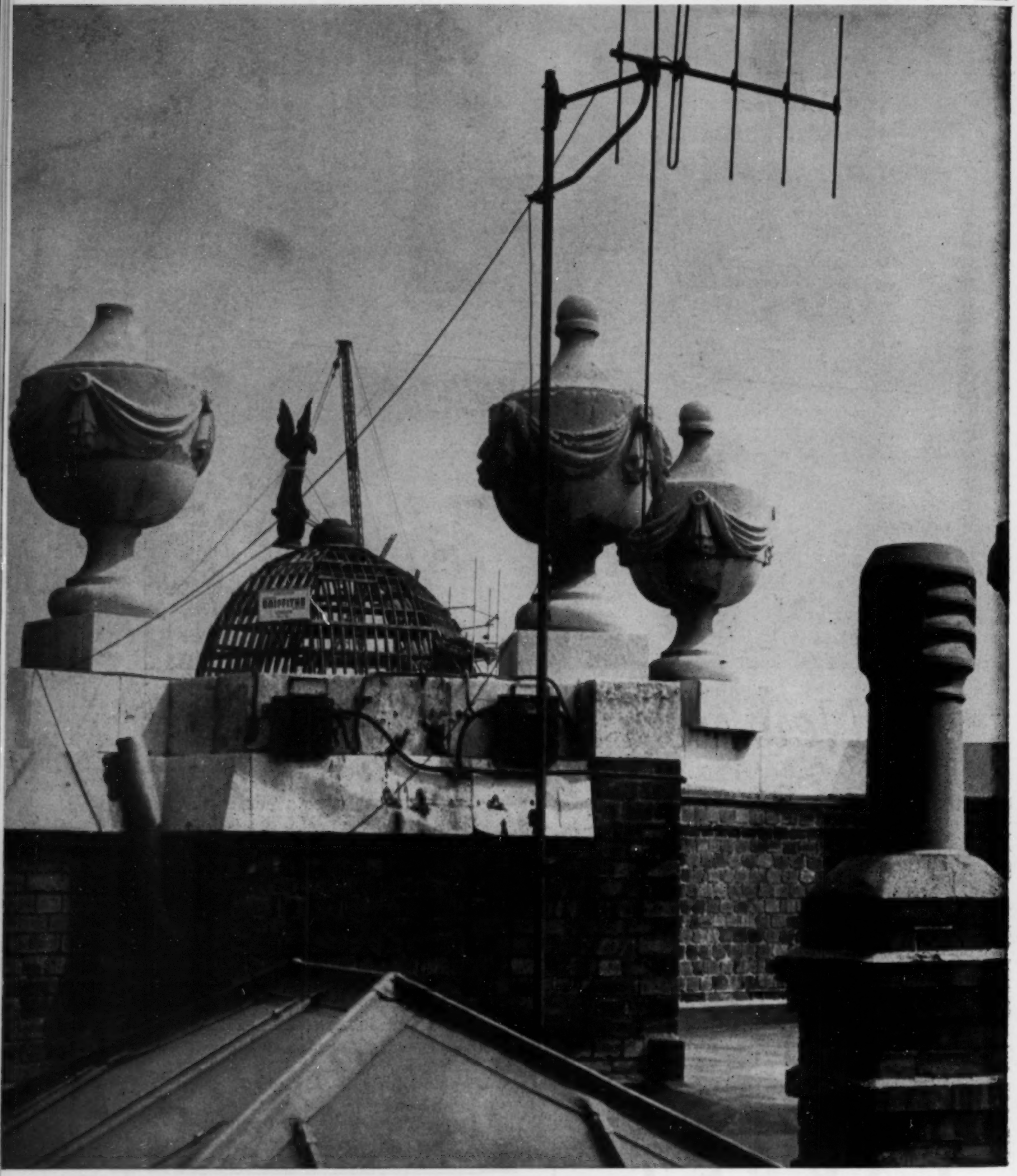
FIRM________________________

ADDRESS________________________

CITY________________ STATE________

# Footnote*

DEMOLITION OF LONDON'S GAIETY THEATER. PHOTOGRAPHED BY J. R. D. HEMING



*

*An angel on her way down*
*is viewed with sympathy*
*by a gallery of roof sculpture*

Today's smartest floors wear KENTILE®

This is KENCOVE® Vinyl Wall Base

**Both inside and outside corners are easily formed right on the job, from the base itself. No short, off-color, factory-made corners that come off or kick loose*.**

**KENTILE FLOORS**

**Available in Rubber, Cork, Vinyl Asbestos, Solid Vinyl, Cushion-back Vinyl, and Asphalt Tile... over 150 decorator colors.**

SPECIFICATIONS:

SIZES:
Height
2 1/2", 4", 6"
Length
48" (2 1/2" & 4" heights also available in 96' rolls)

COLORS:
Black, Green, Brown,
Sumac Red,
Russet and Gray

*Ask your Kentile Representative to show you how the installation advantages of KENCOVE save time and money.